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The Alberta Journal of Educational Research

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EDITORIAL

A Note of Thanks

Each year at the beginning of the March issue, the assistance of the reviewers is acknowledged. Their work constitutes a significant part of the research process, but the listing of their names hardly does justice to the effort that they put into their task. I try to draw expertise through two sources: the *CSSE Directory* and the contacts of the members of the editorial board. From the quality of the reviews that I receive, I believe that in most cases I have been successful in locating people who possess both insight and sensitivity. They labor for the benefit of the academy, and they do not accumulate a lot of points on the salary and promotions ladder for it. Nevertheless, I would like to remind them all that it is an essential part of the research process, and to thank them for making my editorial task possible.

It is often the case that I receive manuscripts from new researchers. Sometimes these are not in perfect form. Yet time after time I find that the referees recognize their responsibility to new scholars and take great pains to provide constructive suggestions for improvement. I seldom encounter destructive comments, and I take this to be a positive comment on the motives of the membership of the Canadian educational research community.

The editorial board has been particularly helpful in providing commentary on difficult manuscripts. Although there may be some "glory" in having your name listed on the inside front cover four times a year, it hardly compensates for the amount of time that they provide. Moreover, being on the cover does not mean that they are not called upon for regular reviews. Ours is a small community and we need all the help that we can get.

Finally, as we begin this 37th year of *AJER*, I would like to thank the contributors—both those whose work appears and those who are not as successful. The quality of most of the submissions is very good, and there simply is not enough room for all of them. I have tried to keep a balance among research areas, and as a consequence there are some manuscripts that are treated more critically than others simply because there is a large pool to draw from in that particular field and I do not want to make the journal become a journal of teaching, or a journal of measurement, or a journal of administration. Overall, however, I hope that I have erred on the side of being too inclusive. Publication is an important part of the research process and some of the newer fields need the sort of nurturing that *AJER* can provide in order to get their case in front of the research community.

T.O.M.



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JAMES COVERT

LEONARD WILLIAMS

and

WILLIAM KENNEDY

Memorial University, Newfoundland

Some Perceived Professional Needs of Beginning Teachers in Newfoundland

As a first step in the induction process, a survey of professional needs was sent to all beginning teachers in the province of Newfoundland. The respondents had several concerns that were similar to those reported in the induction literature, but because nearly 75% begin their careers in rural areas, they may have identified some unique concerns for beginning teachers in most rural communities. Beginning teachers were concerned with the difficulties of dealing with a multigrade classroom and its wide variety of courses. The tight job market in Newfoundland and the resultant probability of becoming employed only in rural schools led to concerns about entry through the substitute route and the legal rights of teachers being dismissed while on probation. There was a wider interest in the legal rights of teachers and students expressed by the respondents. The increasingly litigious nature of the society and the high profile of child physical and sexual abuse may weigh heavily on first-year teachers. This study indicates that induction in rural areas may be much more difficult and complex than in more populated areas. Some innovative programs are suggested to solve the unique problems of induction in rural schools.

Introduction

There is such a growing awareness of the need for programs for beginning teachers in Canada that the 1990s may be known as the decade of induction. Even though there are no official province-wide induction programs in place in Canada there is a great interest in the concept, and several attempts have been made at different educational levels to institute programs that are of assistance to beginning teachers. Ontario may have the most ambitious set of programs, with school boards and teacher education institutions cooperating in various ways to ease the transition from student to teacher. McNay and Cole (1989) and Cole and McNay (1989) have written about induction devel-

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Leonard Williams is a professor of education and the former Director of the Division of Student Teaching. He is currently chairing a Royal Commission on Education for the Newfoundland government.

William Kennedy came to Memorial University from the Newfoundland Department of Education as an associate professor with the Student Teaching Division and was recently appointed Director of Student Placement.

opments in Ontario and are the editors of *Inducere*, a newsletter published by the University of Western Ontario dealing exclusively with induction.

Much of the impetus for the induction programs in Ontario has come from the influential Fullan and Connelly Report (1987) which recommends

That a two-year period of induction become mandatory for all teacher initiates who have completed a one-year pre-service teacher education program or a concurrent pre-service program. We propose that the teaching load during the first year of induction be no more than 60 percent and no more than 80 percent in the second year." (p. 76)

The University of British Columbia has taken the initiative by establishing several partnerships with local school boards through the Centre for the Study of Teacher Education. The Centre examines different approaches to induction through a vigorous research program and publishes a newsletter dealing with various educational issues including induction. It is interesting to note that these two provinces have the most to gain from retaining beginning teachers because of the teacher shortages that they are facing in large urban centers in both provinces.

Two recent studies in the United States indicate that retention of beginning teachers may be a problem. Huling-Austin (1986) reports that as many as 15% of beginning teachers leave teaching during their first year, and as many as 50% may leave during their first five years of teaching. Perhaps of greater concern is the finding by Varah, Theune, and Parker (1986) that beginning teachers with the highest university academic standing are the most likely to leave. This is of particular interest because academic performance is an important criterion used for admission into most teacher education faculties in Canada.

The reasons for undertaking this study came from a different set of concerns. From research in previous years it has become apparent that the vast majority of the first-year teachers employed in Newfoundland have begun their careers in rural areas. The persistent decline in student enrollment through the '70s and '80s has led to a difficult job market for teachers. In addition to this situation, in 1987 the provincial government sought a review of the teacher education program in the province. The subsequent report, *Focusing our Future* (1988), made two recommendations concerning the induction of teachers.

Recommendation 44: That school boards provide an induction program for beginning teachers, extending over the two-year probationary period.

Recommendation 45: That a provincial induction program plan be developed jointly by the department of Education, the Newfoundland Teachers Association, The Faculty of Education and the Newfoundland and Labrador School Trustees' Association. (p. 54)

Considering the national interest in induction and the local encouragement for action, this study seem to be a logical first step. Although there is much interest in induction in Canada, most of the Canadian researchers indicate a dearth of Canadian research on the subject. Grimmett (1984) suggests that empirical information for making informed decisions about teaching at the preservice and induction levels is virtually nonexistent.

Wideen and Holborn (1986), when talking about change in faculties of education in Canada, failed to even mention induction, though one of the major movements discussed was lengthening practical experience and integrating theory and practice. There is little specific information available about the needs of beginning teachers in Canada, but there is little to indicate that these needs would vary much from those that have been well documented in the United States (Snow, 1988).

Griffin (1985) is encouraged by the research activity that has taken place in the past five years in the United States but notes that this is a relatively recent occurrence.

McDonald (1980) noted: We have little information about how teachers pass through the transition stage, other than to know that some apparently do so successfully, some do not. We have no detailed information on how those people who master the transition period do so. Nor do we have information on how different kinds of assistance or help directly or indirectly influence the teachers' successful mastery of the induction period. (p. 44)

Huling-Austin (1986) also indicates the rapid growth of induction programs in the last decade.

A survey of the educational literature in the mid-1970s would have yielded few articles about the problems of teacher induction and programs to assist beginning teachers. Of those few who were writing about teacher induction, most were from other countries, namely Great Britain and Australia.... A survey of the current literature indicates that teacher induction is a topic that is growing in popularity. In fact, several major journals have devoted entire issues to the topic including *Educational Leadership* (November, 1985), *Journal of Teacher Education* (January-February, 1986), *Kappa Delta Pi Record* (July-August, 1986) and *Action in Teacher Education* (Winter, 1987). (pp. 3-4)

These studies indicate that induction is a complex activity with many different possible programs that might be applicable. The most prevalent kind of program is some form of mentoring, where a more senior teacher provides support for the beginner in a variety of ways. Obviously these programs are only as good as the mentor teachers, so much of the research has been directed toward the selection and development of mentor teachers. Perhaps the recent article by Zimpher and Rieger (1988) is indicative of the high quality of work being done on this aspect of induction. The influence of the school climate on teacher induction is well explained by Bullough, Knowles, and Crow (1989).

Perhaps the newest trend in teacher induction is the development of the clinical teaching schools. These are a cross between the teaching hospitals that train doctors and nurses and the Dewey-inspired laboratory schools that have all but faded from the educational landscape. Darling-Hammond (1989) summarizes them this way:

Such schools, in their infancy in more than a dozen cities around the country, are intended—like teaching hospitals—to model state-of-the-art practice while simultaneously refining and spreading it. They are to be places where experts train and socialize novices, where research and theories are trans-

lated into practice, and where practical knowledge is translated in turn into research and theory. (p. 59)

Although all these are important considerations, the programs that are being initiated in Canada are much less well developed and are in need of some basic needs assessment to determine if the problems facing schools in Canada are unique. This study indicates that perhaps there are certain differences that ought to be considered, especially when dealing with beginning teachers in rural areas that do not have access to all the amenities available to teachers in urban areas.

Questionnaire Development

In the American research concerning the needs of beginning teachers, several topics appear frequently. McEvoy and Morehead (1987) indicate that the needs listed most frequently are classroom management, instructional strategies, student evaluation, and the location and development of learning materials. Hawk (1987) adds that interacting with parents and offering emotional support for new teachers are two items that are perceived to be of importance but to a lesser degree. Odell (1986) summarizes induction needs this way:

The two primary needs are (a) to obtain fundamental information about the school district and (b) to obtain resources and materials pertinent to the information to be taught. As experience in the school increases, and the need for system information decreases, the new teachers appear to demand more help around teaching strategies and the instructional process.... The present data show that emotional support is important, but like classroom management support, it is less needed than is help in obtaining resources and materials or in applying a given teaching strategy. (p. 29)

The American studies dealing with the needs of beginning teachers have been quite consistent during the period of induction investigation. Howey (1988) indicates some of these concerns for American teachers.

Teacher preparation institutions nationally (Loadman, 1983, cited in Zimpher, 1986) have revealed some common concerns of these beginning teachers, among them: discipline, communication skills, lesson and curricular planning, student evaluation, as well as other skills beginning teachers claim they never acquired or that were inadequately treated in their programs (deVoss, 1978, 1979, 1980; Katz, Rath, Mohanty, Kurachi, & Irving, 1981, cited in Zimpher 1986, p. 17). (p. 209)

The eight topics selected for this study were those consistently and most frequently identified in the American research literature that were judged to be most pertinent to the Newfoundland situation. A section on the questionnaire was provided for respondents to comment and list any other concerns encountered during their first year of teaching. Respondents were asked to assign a relative rating to each topic in accordance with their perception of its importance. They were offered a three-point scale: the most important topics were to be rated as one, the next important as two, and the least important as three. Kozioh and Burns (1986) indicate several concerns about teacher self reporting, but this seems to be the most appropriate means of assessing the needs of beginning teachers for the purpose of induction. Schlechty

(1985) argues that teacher induction is more like an inservice program than preservice teacher education, so it is important to consider their concerns when designing the support program for beginning teachers. It would be extremely difficult to impose an induction program on teachers if it failed to meet their needs, especially if there is no compulsion to attend.

Because of the relatively small size of the beginning teacher force in Newfoundland, it was possible to survey the entire complement of first-year inexperienced teachers. The questionnaire was administered to 118 beginning primary, elementary, and secondary teachers who were at the first incremental point of the Newfoundland provincial teachers' salary scale as of September 1988. Because beginning teachers are on a two-year probationary period and might be concerned that this questionnaire could be used for evaluative purposes, little background information was sought. The teachers were not differentiated on the basis of their teaching level or their sex. The questionnaire was sent to the school address of each teacher, so it was possible to determine whether their schools were in rural or urban areas.

The questionnaire was sent to the beginning teachers in March 1989. Teachers were then in their sixth month of teaching. It was thought that after six months, beginning teachers would have had sufficient time to become accustomed to their teaching situation and to be able to appreciate the topics under consideration. Approximately 50% (57 out of 118) of the respondents returned the questionnaire. Because of the time of the year and the busy schedule of the first-year teacher, this was considered to be an acceptable return.

In part the survey instructions read, "In order to establish the most helpful in-service sessions for next year's beginning teachers, would you please rate the following activities." Therefore, the topics under consideration were presented as suggestions for inservice activities. Beginning teachers were asked to make a judgment about the importance of each of these topics in accordance with their perception of the importance of this concern during their first year of teaching. The topics were further explained according to the following instructions. "We have listed two examples that might be used to help identify each of the activities."

Beginning teachers could rate each of the items as one (most important), two (less important), or three (least important) to each of the topics. They were permitted to rate more than one response as most important; in fact they could rate all of the questions as of greatest importance. If this were the case, any one topic could receive a score of 57, a rating of most important from each of the responding teachers. In this way the topics were rated in relation to their perceived importance to each teacher. In an effort to determine the overall importance of each of the topics, the individual responses of the teachers were simply recorded in their respective category of importance. The individual responses of the 57 teachers to each of the eight items are included in Table 1. Not all of the teachers responded to each of the items, so three of the eight rows fail to total 57.

Table 1
Rating of all Responses to Questionnaire Items
N = 57

Topic	Most Important	Important	Least Important
Classroom Discipline	49	7	1
Student Interaction	36	18	1
Instructional Management	34	19	4
Resource Utilization	31	20	4
Personal Motivation	28	22	0
Student Evaluation	28	20	9
Public Relations	22	26	9
Communication Skills	21	15	21

Findings

Table 1 indicates how the beginning teachers ranked the eight topics. Classroom discipline is clearly the topic of greatest importance and communication skills is the topic of least importance. Following discipline, the next three topics of interest to the teachers concern the mechanics of classroom operation. These three topics are: student interaction, instructional management, and resource utilization. The next three items involve more personal concerns and include: motivation, student evaluation, and public relations. These relative ratings provided some general notions about how the eight topics might be ordered, but the important information from the survey is to be found in the comments provided by the beginning teachers in a section reserved for personal responses. The instructions for the open-ended section dealing with teacher comments read as follows. "Please indicate below any other activities that you would like to be included in a series of in-service help sessions for beginning teachers."

Classroom Discipline

All but eight respondents scored classroom discipline as a workshop topic of greatest importance. The survey described classroom discipline positively using these two descriptors: (a) maintaining a positive and open learning environment, and (b) motivating students. Even with this positive definition, classroom discipline was the topic of greatest concern for these beginning teachers. These respondents' comments are illustrative of the importance of discipline:

DISCIPLINE is the biggest problem—"what to do when," when nowadays teachers aren't allowed to do much aside from give detention. (Big laugh for most students.)

Much more emphasis must be given to the need for effective discipline. Without good discipline teacher stress "sky rockets" and the greatest lesson plans fail.

I feel it is imperative for new teachers to have some kind of help in the area of school discipline. I see so many things now, that could have helped me then, had I known them or understood the extreme importance of little things, like not allowing students to be dismissed until you say, and beginning work immediately after the bell rings before students can get rowdy. Knowing these things in September would have made my life a lot less stressful.

Some respondents faulted their preservice training.

“discipline” seemed like a dirty word, at least to me, when I asked questions of professors at university.

Dealing with classroom discipline is an area that can be really improved. I cannot remember covering this at the University.

Another respondent offered a constructive way of addressing the problem.

If I could have attended seminars with first year teachers or had more pregraduation experience in disciplinary problems I would have had less trouble. And I don’t mean just student teaching. It is not a true experience in the classroom when the co-operating teacher is there with you. New teachers need practical skills perhaps even more than educational or theoretical expertise.

Student Interaction

The second most important topic identified by beginning teachers was student interaction. The examples listed for this topic were, (a) perceiving the needs and problems of students, and (b) resolving student conflicts. Among the comments that specifically addressed this topic, several respondents indicated a weakness in their preservice training.

I feel that my training in university was very inadequate in terms of the above instructional management and student interaction. I feel that we need more time spent on the student. How he/she feels, how we can recognize problems. In order to teach a kid at any age we need to know these things at the earliest time possible.

Basically the biggest problem I see in the teaching profession is the lack of preparation for the teacher first entering the classroom. By this I mean the first year teacher believes that this is going to be a truly enjoyable experience only, in certain circumstances, to be faced with a pack of hungry animals.

Hands-on experience is really the only way to learn about the teaching profession, but if an in-service is absolutely necessary then concrete activities involving real problems that arise in a school such as abuse, pregnancy, etc., can be beneficial. Often the teaching is the least of teacher’s worry!

Others saw a need for help for both students and teachers.

Positive reinforcement to students and teacher—You are doing a good job.

Effective planning of group activities to allow for more individual teaching times with one on one sessions for weaker students.

I believe we are not prepared for the demands placed on us by the system and sometimes the lack of administrative help that we deserve. In other words, they do not have the answers to give us either because they don’t know them or have the guts to explain them. Our system has failed in some respects.

Instructional Management

The instructional management topic included two examples: (a) planning and scheduling classroom activities, and (b) setting instructional goals. The rating of this item is of particular interest because these competencies are fundamental survival skills that are normally thought to be stressed in the preservice program. These beginning teachers perceived a need for help in this very practical area.

There is a need for more practical work such as: how to fill out a register, how to assess student progress, creating tests, how to deal with students who are constantly disruptive. Classroom management, not just psychological theory.

Arranging the curriculum would be a valuable service. In many positions this is left to the individual teacher and as a first year this is difficult.

Some activity that would simply explain many of the mechanics or day to day operations that are never explained. Such things might include ordering, doing registers, and different regulations in terms of where teachers stand on certain issues. I feel new teachers are not well-prepared for the administrative side of teaching. This very important area should be addressed.

A credit course with classroom management as the primary focus would be a very good idea. Preferably taught by someone with recent teaching experience.

Several teachers testified to the hard work of simply surviving the first year of teaching.

I have so far had a very good year. However I have worked very hard and spent a huge amount of time on both instructional management (most days in school until 6 p.m. at least), and in tracking down the work of some students who do not seem to be interested no matter what I do. In particular, one child is a problem in that he has done no work in school in the past four years.

Being on your own in a homeroom class of 33—all those faces, not knowing procedures, bells, who is allowed and not allowed to do what, methods of discipline, etc., etc. When I look back I certainly don't know how I did it, but it was due to my six years at university.

Resource Utilization

Resource utilization may be seen as a prerequisite to effective classroom management. This topic was defined by these two examples: (a) locating resource people and materials, and (b) using resources effectively. Access to resources may have posed a problem for some of the beginning teachers because of their location in rural areas, but several comments seemed to underlie the general importance of this topic.

Throughout our professional training we were taught to vary our instructional mode through the use of audiovisual resources. These resources, however, are unavailable in many cases and we end up boring ourselves and our students to death!!

All beginning teachers should be made aware of the materials available to them by the board. Resource utilization in the area of Special Service Student

Program and Assessment for the High School is minimal for High School Teachers.

How to use resource personnel and how to deal with the lack of resource personnel.

Personal Motivation

This topic seems to be more concerned with the personal emotions and the maintenance of a positive self-concept. It has been stated that the first four topics are more concerned with the everyday operation of the classroom. It is interesting to note that the personal concerns of beginning teachers rank below the more mechanical activities of running the classroom. The examples listed for this topic are: (a) receiving emotional support from other teachers, and (b) retaining a positive attitude in spite of stress. Several teachers clearly expressed their need for help in this area.

I believe we are not prepared for the demands placed on us by the system and sometimes lack the administrative help that we deserve.

If you have a supportive staff that alleviates a lot of possible problems for beginning teachers. I personally don't mind asking any question, and that helps because this year I had a lot of questions—lines of communication have to be kept open.

Other teachers wanted the more experienced faculty members to be tolerant in their dealings with beginning teachers.

Beginning teachers need to be informed about many things that most teachers think we (beginning teachers) already know.

Not enough emphasis can be placed on receiving support from other teachers, to know that we are all having some problems and that it will take time to become a good teacher—years in fact.

Others suggested that some form of a support mechanism be put in place.

I perceive a need for more guidance in terms of evaluational planning and showing what should be emphasized over the year. I also believe that alternatives should be given to first year teachers in terms of discipline; what can be done.

I would be especially interested in a program like (STET—Strategies for Effective Teaching) which solves strategies for real-life class situations.

Student Evaluation

Student Evaluation seems to be more closely allied to the mechanics of teaching than the personal interaction skills that immediately precede and follow this topic. The terms describing this topic were: (a) constructing and administering tests, and (b) assessing student progress. Some of the following comments indicate the importance of the topic to the beginning teachers.

I feel a better understanding of the provincial standard of achievement would better help teachers in areas of subjective evaluation.

There is a need for more practical work such as: how to assess student progress/creating tests.

I perceive a need for more guidance in terms of valuational planning and showing what should be emphasized over the year.

Public Relations

This topic, once again, seems to involve the more personal concerns of beginning teachers and therefore fits more closely with the personal motivation topic listed above. The questionnaire referred to: (a) conducting parent conferences, and (b) maintaining a positive relationship with the community. Odell, Loughlin, and Ferraro (1987) list parent-teacher relationships as a need of beginning teachers; however, it ranked quite low among the needs of these respondents. In fact the only comment listed mimicked those identified above as examples in the survey. This suggests that these beginning teachers are quite comfortable dealing with parents and have no difficulty coping with the expectations and values of the communities where they begin their careers. This is an interesting contradiction considering the comments that were received concerning legal rights and responsibilities of teachers that are explored in the next section. Perhaps it is because students returning to rural areas with an education are awarded a certain amount of esteem, or it may be the vestiges of deference to authority traditionally shown teachers in rural areas.

Communication Skills

This topic was clearly of least concern in the survey. Over twice as many teachers listed this as of least importance than any of the other topics. The examples for the topic included: (a) making clear oral presentations, and (b) expressing written ideas clearly and concisely. Although the beginning teachers may have felt their preservice program had some deficiencies, they seemed to feel confident in their ability to make oral and written presentations to their students. There were no individual comments that pertained directly to this topic.

Serendipitous Findings

Because of the nature of beginning teacher employment in Newfoundland, three unanticipated findings emerged from the individual comments of the respondents. It is speculated that these findings may be in part a result of the difficulty that teachers have in obtaining initial employment. More specifically the three findings were: difficulties associated with teaching in a rural area, that is, few resources and multigrade classrooms; problems attaining employment in a tight job market, that is, substitute teaching and rural posting; and concerns of teaching in an increasingly litigious society, that is, rights of abused children and rights of beginning teachers.

Approximately 74% of the teachers in this study began their teaching in rural Newfoundland. It is quite apparent from conversations with graduating students that they would usually prefer to teach in the larger communities of the province, but because of the tight job market they are obliged to accept initial employment in the more remote rural areas. Beginning teachers often take a first job in a rural area in the hope that this will lead to future employment elsewhere closer to town. Some comments reflected the

difficulty of finding initial employment and the attendant problem of having to begin teaching in a rural area.

Beginning teachers should be enlightened on how difficult it is to get a job in the province. What has been most disturbing and stressful for me has been the hiring practices of some school boards, dealing with this kind of stress is a startling realization.

I think the majority of first year teachers are employed in smaller schools and many resources are unavailable due to lack of funds available. This issue needs to be addressed.

The other indication of a tight job market is the large number of teachers who begin their teaching career as substitutes. Often these are those who are unwilling to move to the rural areas in order to get a job. Substitute teachers are having a significant impact on teaching in Newfoundland. *Toward 2000* (1990), a recent report from the Department of Education, indicates that substitute teachers represent 22.5% of the total teaching force in Newfoundland. This substitute teaching figure represents 90,000 days or the equivalent of 473 additional full-time teachers in the system.

One beginning teacher suggested that there should be a preservice preparation program for teachers who seek to enter the profession through substitute teaching.

For many first year teachers substitute teaching is a reality. Have a course in which students can prepare themselves for substitute teaching. Many teachers give up this profession because they find themselves in awkward situations as a substitute teacher.

The second problem resulting from beginning teaching in a rural setting may be a sense of inadequacy because of the wide range of expertise needed to deliver the curriculum. Because there are often fewer teachers in a rural school, there may be unique problems arising that were not addressed in the preservice program. As one beginning teacher put it, "we need help in knowing how to teach in a multi-grade classroom," and another was more emphatic when saying, "we need to know how to prepare for 18 courses per day."

The third unsolicited finding resulting from the survey concerned the legal rights of teachers and students. The following comments reflect this concern.

Beginning teachers' rights and obligations. Sit down and discuss all aspects of a principal's job and where it comes down to him controlling the discipline problems. Make sure there are no misconceptions when it comes to the delegations of responsibility.

Many beginning teachers do not have the necessary knowledge about procedures to follow in decision making about students and also teachers' rights.

Other comments reinforcing this legal concern indicate these beginning teachers wanted to know about "lay-offs, seniority and reassignments." Beginning teachers have a two-year probation period in Newfoundland, and in a tight job market it may be extremely important to know one's rights regarding dismissal.

Beginning teachers' interests in their legal rights and obligations may also be due in part to a very practical concern about sexual abuse in this society. One respondent expressed concern for knowing how to provide warmth and comfort for children and yet not being perceived to be making unwanted sexual advances.

Some reaction sessions, how would you respond if ...? could be beneficial. These would include the teacher's legal limits as well, for example, how far can we go to help on comfort, etc.

These legal concerns were quite unexpected and probably represent the most interesting findings of the study.

Discussion

The purpose of this article is to describe the needs of beginning teachers that might be addressed as a part of induction programs. Induction tends to emphasize the cooperative role played by both teacher education institutions and local school boards in composing induction programs. Such programs are constructed to assist the employed beginning teacher to cope successfully with the transition from student into teacher. As Odell, Loughlin, and Ferraro (1987) claim,

The questions asked by beginning teachers seem eminently sensitive to the demands placed on them by their students' needs, by the school calendar, and by parents and administrators. Through tracking the rise and fall of the teachers' several needs, the assistance offered to new teachers can be made precisely appropriate to their contemporary needs. Thus, the content of teacher induction programs can be made reactive rather than prescriptive and, to the extent that individual teacher needs are identified, it can be individualized for a particular first-year teacher. (p. 56)

Zaharias and Frew (1987) summarize a similar position this way.

While the purpose of this article has been to demonstrate that colleges of education can make a significant contribution to the induction of beginning teachers, it has not been the intent to suggest that institutions of higher education assume total responsibility for the delivery of induction programs. Instead, the induction phase of teacher education should optimally serve as a context in which local school systems and colleges of education work together. (p. 54)

Induction in Rural Areas

Some of the most interesting findings of this study seem to have resulted from the rural positions to which the beginning teachers have been assigned. Some of the difficulties arising because of their rural posting are quite understandable. Beginning teachers in rural areas may be requested to teach a number and variety of courses for which they have little preparation. This is not due to a misassignment of beginning teachers, as may be the case in urban areas, but rather a matter of necessity. Often teachers in rural schools are expected to teach a wide variety of courses. Beginning teachers in this survey indicate that it would be helpful to have a special preservice training program for teachers who may want to teach in rural areas, with some

exposure to this problem. Beginning rural teachers may also need induction programs that differ from their urban counterparts.

In rural schools the problems of induction may be magnified and not as easily solved as in larger urban centers. As a result of this, some unique solutions must be devised. Because of the rural nature of Newfoundland and the placement of most beginning teachers in these areas, it has been proposed that beginning teachers might be assisted through a series of induction programs on the teleconference network which includes a two-way audio-visual communication capability.

This teleconferencing solution is generally applicable, and qualified persons can be gathered together in central broadcasting locations for the purpose of providing induction programs to teachers in isolated communities. Induction programs are most frequently conducted by mentor teachers, but this method of induction presents several practical problems for teachers in small rural schools. It may be undesirable to release the “best” teachers for the purpose of mentoring because there are so few that they are greatly needed in the classroom. In some cases there are no mentors available at the same grade level or even teaching the same courses. The nearest teacher with experience in the same course or at the same level may be several miles away both in distance and in spirit. One of the greatest problems for beginning teachers is having the feeling that they are all alone in this situation and that only they are experiencing these difficulties. The teleconference method would allow beginning teachers to talk with each other as well as the knowledgeable induction practitioners.

Another method of offering induction programs to rural areas might involve establishing a team of itinerant teachers. These experienced people would need to have expertise in the various areas of need that might arise in the beginning teacher situations. This team would be made available to schools, school board coordinators, and/or school systems. The chief function of the team would be to offer induction programs for beginning teachers on the topics of expressed need. These induction teams might serve as troubleshooters for schools where the mentoring systems might not be practical. If induction programs are to be offered for beginning teachers, they must be offered to all beginning teachers, both urban and rural. It should be recognized that these programs may differ significantly in both content and delivery.

Legal Concerns of Beginning Teachers

Some of the legal problems that arise in this study are perhaps unique to the Newfoundland setting. The province has recently been undergoing a prolonged investigation of child physical and sexual abuse that has been broadcast on the local cable channel each day for nearly two years. Because of this climate, teachers express fears that their overtures of affection may be misinterpreted as sexual abuse.

Newfoundland teachers are also concerned because of revisions that are being made to the Schools Act that will eliminate corporal punishment as a means of discipline. Beginning teachers in Newfoundland are not alone in their concerns about the use of discipline in the schools. Some recent court

cases have put the disciplinary role of teachers in doubt. Green (1988) reports on a case in British Columbia where a teacher was suspended for breaching a board regulation forbidding corporal punishment. In another case in Ontario, Green (1990) reports that a principal was charged with using undue force in restraining a student. Foster (1986) believes that teachers should be sued for educational malpractice, mentioning several cases where students are liable for educational harm because of having been placed in a special education class. Beginning teachers are often placed in the classes with mainstreamed students, and therefore may need to be concerned about educational negligence in this kind of a situation. Parker-Jenkins and Osborne (1985) mention several cases involving the private life styles of teachers that have left teachers in doubt about their legal status as teaching professionals.

These beginning teachers are the first generation to have had the option of taking a course in educational law as part of their preservice training. They may even be required to teach a course in law or democracy as part of the secondary school curriculum. They are much more aware of the problems and possibilities of teaching in a litigious society.

Concerns about the possibilities of layoffs, redundancies, and proper teacher conduct, especially when on prohibition, are of interest to all beginning teachers. Rural schools constantly face the problem of trying to hire and retain teachers, so the legal concerns expressed by the respondents in this survey may be quite typical for other rural areas in Canada. It is quite likely that teachers beginning their careers when there is a tight job market will experience the same legal concerns about job security that were expressed in this survey.

It is evident from the comments of the respondents in this sample that many of the difficulties experienced by beginning teachers are not fully addressed in their preservice education. The fact that these beginning teachers recognize problems and are willing to seek help to address these concerns assures us that they are committed professionals. Helping these teachers in their first years may be the key to keeping competent and highly motivated people in our education system.

References

- Bullough, R.V., Knowles, G.J., & Crow, N.A. (1989). Teacher self-concept and student culture in the first year of teaching. *Teachers College Record*, 91(2), 209-233.
- Cole, A., & McNay, M. (1989). Induction programs in Ontario schools: Raising questions about preservice programs and practice. *Education Canada*, 29(2), 4-9.
- Darling-Hammond, L. (1989). Accountability for professional practice. *Teachers College Record*, 91(1), 59-80.
- deVoss, G. (1978, 1979, 1980). *Technical reports: Institutional follow-up studies*. Columbus, OH: Ohio State University College of Education.
- Focusing our future: The report of the Presidential Committee to review teacher education*. (1988). St. John's, NF: Memorial University of Newfoundland.
- Foster, W.F. (1986). Educational malpractice: Educate or litigate. *Canadian Journal of Education*, 11(2), 122-151.
- Fullan, M., & Connelly, M. (1987). *Teacher education in Ontario: Current practice and options for the future, Position Paper*. Toronto, ON: Ontario Institute for Studies in Education.
- Green, M. (1988). Case note: Employment rights. *Education and Law Journal*, 1(2), 230-231.
- Green, M. (1990). Case note: Discipline. *Education and Law Journal*, 2(3), 351-353.

- Griffin, G. (1985). Teacher induction research issues. *Journal of Teacher Education*, 36(1), 42-46.
- Grimmett, P. (1984). *Research in teacher education: Current problems and future prospects in Canada*. Vancouver, BC: Centre for the Study of Education, University of British Columbia.
- Hawk, P. (1987). Beginning teacher programs: Benefits for the experienced educator. *Action in Teacher Education*, 8(4), 59-64.
- Howey, K. (1988). Mentor-teachers as inquiring professionals. *Theory into Practice*, 28(3), 209-213.
- Huling-Austin, L. (1986). What can and can not reasonably be expected from teacher induction programs. *Journal of Teacher Education*, 37(1), 2-5.
- Katz, L., Rath, J., Mohanty, C., Kurachi, A., & Irving, J. (1981). Follow-up studies: Are they worth the trouble? *Journal of Teacher Education*, 32(2), 18-24.
- Kozioh, S.M., & Burns, P. (1986). Teachers' accuracy in self-reporting about instructional practices using a focused self-reporting inventory. *Journal of Educational Research*, 79(4), 205-210.
- Loadman, W. (1983). *Technical report: Follow-up studies*. Columbus, OH: Ohio State University College of Education.
- McDonald, F. (1980). *The problems of beginning teachers: A crisis in training* (Vol. I). Study of induction programs for beginning teachers. Princeton, NJ: Education Testing Service.
- McEvoy, B., & Morehead, M. (1987). Teacher induction: What can a university do best? *Action in Education*, 8(4), 45-49.
- McNay, M., & Cole, A. (1989). Induction programs in Ontario: Current views and directions for the future. *Education Canada*, 29(1), 9-15.
- Odell, S.J. (1986). Induction support of new teachers: A functional approach. *Journal of Teacher Education*, 37(1), 26-29.
- Odell, S., Loughlin, C.E., & Ferraro, D.P. (1987). Functional approach to identification of new teacher needs in an induction context. *Action in Teacher Education*, 8(4), 51-57.
- Parker-Jenkins, M., & Osborne, J. (1985). Rights in conflict: The case of Margaret Caldwell. *Canadian Journal of Education*, 10(1), 66-76.
- Schlechty, P. (1985). A framework for evaluating induction into teaching. *Journal of Teacher Education*, 36(1), 37-41.
- Snow, S. (1988). Concerns of the first year teacher. In P. Holborn, M. Wideen, & I. Andrews (Eds.), *Becoming a teacher*. Toronto, ON: Kagan and Woo.
- Toward 2000: Trends Report Two: Elementary and Secondary Projections*. (1990). St. John's, NF: Division of Evaluation and Research, Department of Education, Government of Newfoundland and Labrador.
- Varah, L., Theune, W., & Parker, L. (1986). Beginning teachers: Sink or swim? *Journal of Teacher Education*, 37(1), 30-34.
- Wideen, M.F. & Holborn, P. (1986). Change and survival in faculties of education. *Interchange*, 17(1), 33-47.
- Zaharias, J.A., & Frew, T.W. (1987). Teacher induction: An analysis of one successful program. *Action in Teacher Education*, 9(1), 49-55.
- Zimpher, N. (1986). *Using research knowledge to improve teacher education: Implementation of an induction program for inquiring professionals* (Contract No. 85-0012). Washington, DC: Office of Educational Research and Improvement.
- Zimpher, N.L., & Rieger, S.R. (1988). Mentoring teachers: What are the issues? *Theory Into Practice*, 28(3), 175-182.

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Supportive Growth Experiences of Beginning Teachers

This study focuses on the ways in which the experiences of support from within schools affected the professional growth and sense of satisfaction of four first-year elementary school teachers. It is based on the phenomenological analysis of interview transcripts from a larger study of the experiences of first-year teachers. The present study describes an area that was not analyzed in the original study. The themes that emerged in the present study were (a) support that allows a growth choice, (b) need for reciprocity, (c) need for appropriate levels of support, (d) need for concreteness and specificity, (e) support through comparison with others, and (f) need for recognition.

Although the need for support during the first year of teaching is well documented (Everett-Turner, 1985; Goodman, 1987; Lortie, 1975; O'Neal & Hoffman, 1984), there is a lack of research into how novice teachers experience the support that they do receive. Researchers have also shown that novice teachers get most of their career development support from peers (Goodman, 1987; Griffin & Hukill, 1983; Lacey, 1977; Lortie, 1975).

Williams (1986) points to five stages of career development in teachers: (a) survival, (b) consolidation, (c) expansion, (d) disillusionment, and (e) career stance which can be either holding or lifelong learning, and states:

Teachers who find a way of integrating their idealism with the realities of the system seem to assume a career stance of lifelong growth. They take a vital interest in their students and their careers and continue to grow and learn.
(p. 197)

If this is true it would seem essential to examine more closely the kinds of support that help foster this integration. It also seems logical in light of Ryan's (1980) findings that levels of satisfaction experienced by first-year teachers tend to continue into later teaching, to focus on the kinds of support that are effective in promoting growth and satisfaction in first-year teachers.

Williams also states that "in an atmosphere created to account for the special needs for beginning teachers, the teacher may move more quickly and easily through the first two stages of development" (p. 206). This atmosphere must be looked at more closely in order to help us understand the types of support that are essential to the professional growth of first-year teachers.

This study explores examples from the experiences of four first-year teachers in order to search for a deeper understanding of how their experi-

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ence of support from peers affected their professional growth and sense of satisfaction. Williams' question, "What is the difference between an event which causes growth and one which does not?" (p. 210) is also kept in mind.

Method

This study is based on only a small portion of the data collected for a much larger study of the experiences of first-year teachers (Olson, 1989a). A phenomenological approach was used in order to develop a deeper understanding of the often taken-for-granted problems of first-year teachers. As Fullan (1982) emphasizes, "The message to everyone outside the role under review is: *Understand the subjective world—the phenomenology—of the role incumbents as a necessary precondition for engaging in any change effort with them*" (p. 120).

Participants

The four teachers involved in this study, three women and one man ranging in age from 26 to 35 years, had just completed their first year of teaching in elementary schools in a large urban school district. Barbara, Linda, JoAnne, and David were selected because of their willingness to spend time writing a short description of their experiences, to be involved in a taped interview, and to respond to the interpretations of their experiences.

Barbara began her teaching career at age 35 after working for several years as a hairdresser. Sharing her daughter's experiences with school reintroduced her to the education system. When she started to consider a career change, her experiences with her daughter led her to consider teaching. She believed that teaching was an important, well respected profession in which she could make a contribution to society. She also felt that school hours would fit with her family responsibilities to her son and daughter. Barbara's actual placement in her first year was a part-time position teaching French to two grade 4 classes.

Linda began teaching at 33. Her previous experience as a library technician had provided her the opportunity of working in several educational settings. She had worked in both elementary and secondary schools as well as at a community college where she also instructed courses. When she decided to make a career change, her previous experience with elementary school children led to her choice. Linda's initial placement was a grade 5 classroom where she taught extended French. She taught language arts, social studies, art, and health in French as well as teaching French language. She taught her own class in the morning and then taught extended French to two grade 6 classes in the afternoon.

JoAnne was 28 years old when she began her teaching career. She had not been satisfied in her previous work experience, but did enjoy training other people. The satisfaction that she did feel in teaching and helping others led to her decision to become a teacher. Once she entered the Faculty of Education, she selected special education as her major because of her interest in the personal aspect of teaching. JoAnne's actual placement was a newly created position teaching a special education class for behavior disordered children. She was hired because of her specialized training. She had six male students in her class ranging in age from seven to 10 years.

David began teaching at age 26 after six years at university where he received an Honors BA in political science and an after-degree BEd. His experience in working with youth groups, especially Ukrainian scouting, led to his desire to become a teacher where he would have more opportunity to work with children. Although he works in Alberta and has friends here, home and family are in Ontario where David returns for holidays. David's actual placement in his first year was in a grade 4 classroom where he taught language arts, art, and French. He also taught French to two other grade 4 classes.

Procedure

The interviewer met with each of the participants individually to discuss the purpose of the study and to familiarize them with phenomenological research methods described by Becker (1986), Giorgi (1975), and van Manen (1984). They were given a copy of the research plan which asked for a short written description of the experiences that were meaningful to them as first-year teachers. The following questions (Olson, 1989a) were given as a stimulus for the written descriptions:

How were your experiences different from what you expected? In what ways did your colleagues help or hinder you in your transition into teaching? How did the students influence the way you implemented your theoretical knowledge into actual classroom practice? How did the physical structure of your school and classroom affect your teaching style? Did some words take on different meanings than they had previously? In what ways did you feel unsure of yourself; in what ways did you develop confidence? What made you comfortable; what would you like to see changed? How did teaching affect you physically and emotionally? (p. 130)

However, it was emphasized that it was their experiences that were of interest; the suggestions were only given to stimulate ideas. Anything that they felt was relevant was exactly what was wanted. The written descriptions provided a basis for later taped interviews.

Interviews were held in the teachers' classrooms after school when interruptions were less likely. Participants were asked to expand on the themes of their written descriptions. The interviews, however, were not confined solely to these themes. Other aspects of the experiences were often brought to light. The taped interviews, ranging from 45 minutes to two hours in length, were concluded when participants felt that their experiences had been sufficiently covered.

Data Analysis

Initial written descriptions were read in order to get a feeling of what the experience had been like for each individual. Preliminary themes were identified. Similarities and differences among the four written descriptions were noted. Differences were not discarded, but looked at more closely. Interviews were held after preliminary analysis of the written descriptions.

Transcribed taped interviews were combined with the original written descriptions to comprise individual protocols which were broken down into isolated meaning units, paraphrased, and given descriptive themes. Once the themes were identified for each individual, they were grouped for that in-

dividual in a first order clustering that allowed a higher level of meaning to be abstracted. The first order clusters of themes were grouped once more into a second order cluster to reach a higher level of abstraction for each individual. The abstractions and interpretive analyses were taken back to the individuals for validation.

The themes from each of the four individual second order clusters were then combined in a final higher order cluster of common themes. Care was taken in looking at differences and discrepancies as well as tracing the reliability of the common themes back through the individual experiences. A final synthesized interpretation based on the higher order clustering of common themes was written to describe the essential qualities of the first-year teaching experience for the four participants. The synthesis was also taken back to them for validation.

Although Barbara, Linda, JoAnne, and David had very different specific experiences during their first year of teaching, as the data were analyzed 10 major common themes emerged. These were (a) orientation of the novice, (b) sense of responsibility, (c) ability to meet orientation goals, (d) taking control, (e) need for affiliation, (f) finding security—physical/emotional, (g) meeting content and process needs, (h) evaluation of goal success, (i) search for understanding, and (j) changes in role orientation.

The need to limit the length of the major study prevented the researcher from developing in-depth phenomenological interpretations of the numerous subthemes that were embedded in the 10 major common themes. The present interpretive analysis investigates one of the subthemes that was not considered in the major study: the ways in which the experiences of support connect the major themes of *finding security* and *need for affiliation*. Classroom atmosphere, a subtheme of the common theme *finding security*, has been investigated in *Room for Learning* (Olson, 1989b).

Interpretive Analysis of the Data

Support that Allows a Growth Choice

A sense of not knowing and apprehension existed within these first-year teachers as they entered a new environment in a new role, both of which felt strange and foreign. As David commented, "I was very distracted by the various goings on. I had to deal with the new environment and my new 'self'—a teacher." Bollnow (1961) states, "The space where a man finds himself at the moment may not be the space to which he belongs" (p. 32). For David, not only did he need to find a sense of belonging, but he also needed to find his new self within this strange space. The way the novices were welcomed into their schools as well as the way they perceived the school atmosphere had a tremendous impact on professional growth. When a sense of belonging was felt, they were able to begin searching for their new self as a teacher; when the space continued to feel foreign, they were unable to take the risks involved in the search for a new identity.

After the initial excitement of being offered a job, concerns about the actual placement took over. The novices needed to find a place where a sense of belonging could be felt. David was placed in the dubious position of being able to choose between two schools. Although he was glad to be in a position to choose, he had no idea of how to make the choice. He suffered a severe

sense of anxiety, fearing that he would not make the right choice. However, he states, "I think what really swayed it were the interviews themselves. Strictly based on the personal experience with the principal." David did not regret his choice. The sense of belonging that he unconsciously perceived in the interview was confirmed for him throughout his first year. "The staff at this school is absolutely wonderful. There is a general warmth that evolves in the school where one can feel secure."

Linda also felt a sense of contentment and belonging in her placement. Her previous experience in the school as a student teacher provided her with a sense of familiarity. "I had an opportunity to be in the school before and I had met some of the teachers and the principal. I liked the atmosphere here." Her initial sense of belonging led to feelings of comfort that allowed her to risk dealing with the stresses and concerns that she experienced in searching for her new self.

JoAnne was at first more concerned about the way her behavior disorder class and program would be accepted in the school than she was about her own personal acceptance. She initially saw her class and herself as a separate entity in the school. In fact, her timetable was originally different from that of the rest of the school which prevented her having contact with other teachers before school and at lunch. This was changed when JoAnne expressed a need for herself and her students to have a regular lunch break like the rest of the school. She received specific guidance from the consultant as well as perceiving administrative support and collegial acceptance for herself, her students, and her program. "Once I got to know the other teachers they were terrific—just a super staff and always ready to help me out with the materials and so on."

For Barbara the situation was very different. She had ambivalent feelings about being offered a part-time position. It was not the job she wanted, but at least it was a job. Teaching French to students who came from other classrooms led her to feel like an appendage instead of an integrated member of the staff. She did not initially have a classroom of her own. Not having a room of her own made her feel out of place, lost, and isolated. "Everybody else was so busy doing things. They were all in their classrooms and I thought 'What am I supposed to be doing?'" Being given a classroom made her feel a lot better. "This is *my* room, *my* place. That was really important." When she had a place to belong, she was able to take some risks in searching for her new self as a teacher. However, because she was teaching other teachers' students, she felt a real need for her program to be accepted by those teachers. "With one teacher it was fine. With the other one, I thought he felt that he was losing one hour out of the day. [My program] seemed to really upset him so that was kind of uncomfortable." This lack of acceptance prevented Barbara from developing a feeling of belonging. Because Barbara never did accomplish a sense of belonging with the staff, the support that she perceived was minimal. She often compromised her own needs in a desperate attempt to fit in. "It was really hard to feel your way around to see what you can do and what you can't." However, she did find her need for belonging met at inservices in her subject area where she perceived a sense of commonality and empathy:

Meeting with other teachers in other schools who teach the same subject area has been very helpful and therapeutic. Discussing common problems often resulted in finding solutions, but more often resulted in a tremendous release of tension. I was out of the school and I felt like I could say maybe what I felt like saying. I didn't have to be positive all the time.

These first-year teachers experienced an incredible sense of inadequacy. They had a tremendous desire to experience immediate competence and be seen as competent by others, yet had no experience and little awareness of the actual demands that their new role entailed. As David stated, "I had certain ideas about what a teacher was, but I was feeling my way around, constantly grasping at straws. Am I this image of what a teacher is?" Integrating previous self-perceptions with newly perceived expectations of oneself as a teacher requires a sense of acceptance in order to risk making the growth choices that Maslow (1986) sees as necessary for movement toward self-actualization:

Let us think of life as a process of choices, one after another. At each point there is a progression choice and a regression choice. There may be a movement toward defense, toward safety, toward being afraid; but over on the other side, there is the growth choice. To make the growth choice instead of the fear choice a dozen times a day is to move a dozen times a day toward self-actualization. (p. 44)

For David, Linda, and JoAnne, the sense of acceptance and belonging that they experienced helped provide them with the courage to make growth choices. For Barbara, her feelings of defensiveness toward her program and her fear of not being accepted if she could not fulfill others' expectations often led her to make regression choices.

Need for Reciprocity

The word *support* has its etymological roots in the Latin word *supportare*—to carry, bring, or convey to a place. Support also means to endure or bear (Klein, 1971). The teachers in this study needed support in order to move successfully toward self-actualization as teachers. However, they were painfully aware of the burden they might be placing on those from whom they sought support.

They needed to feel accepted as professional peers before being able to seek support in areas where they felt they should already be competent. As Linda expressed, "At first I felt hesitant because I thought, 'Well, I must be expected to know all of this.'" Her original perceptions of experienced teachers as "knowing the right answers" presented a contrast barrier with her own feelings of "doubting whether I was teaching what I was supposed to be teaching all the time." Thus she felt she had nothing to give in return for the support she needed. However, Linda's original sense of familiarity and belonging allowed her to risk deeper involvement with her peers which led to a change in her perceptions:

I felt comfortable after just getting to know people. And to know that nobody had any definite answers either as far as a lot of things go. After a while I never felt that there was a question that was not appropriate. I felt very comfortable with that.

Linda's realization of the pervasiveness of uncertainty in the teaching profession allowed her to become more accepting of her own uncertainty. She began to look inside herself for possible solutions to problems. She then began to feel that she had something to give in return for the support that she sought. This sense of reciprocity allowed her to feel less as if she was placing a burden on those from whom she sought support. "The teacher that was next door. I used to always go and bounce my problems off her. She was very receptive. She used to do the same to me after a while."

Barbara's search to fit in, belong, and be accepted by her peers was a continual concern. "I don't want to step on any toes. I don't want them to think I'm too pushy, I don't want them to think I'm too much of a coward." However, the occasional sense of reciprocity that she experienced allowed her to feel some sense of acceptance. "We did a lot of planning together. She said, 'Pick whichever topic you feel most comfortable with, one you know something about.' It was really nice." By allowing Barbara to choose an area where she felt comfortable, the other teacher was allowing Barbara to feel accepted as someone who had a degree of professional competence that was seen as mutually beneficial. It allowed Barbara to feel worthy of accepting support in areas where she still lacked competence.

Need for Appropriate Levels of Support

Magnusson, Day, and Redekopp (1988), in their proposed intervention model to help youth in transition, state that "interventions that do not address the developmental needs of youth are a costly waste of resources that may not only be ineffective, but may also be destructive" (p. 8). This statement was certainly true for Barbara. "The principal pointed [the materials] out to me, but she didn't know anything about it, how to use it. She just said, 'Here it is, Do what you want with it.'" This principal lacked an understanding of Barbara's developmental needs. She was assuming a competence that Barbara did not possess and was providing Barbara with the freedom that an experienced teacher may have appreciated, but which Barbara perceived as a devastating lack of support.

Williams (1986) states that "teachers said they often grow because of the right supervision or help at the right time" (p. 201). However, teachers may not be aware of what their needs are. They may only be able to see their needs when someone with more experience is able to point them out.

Barbara discovered her need to seek out other French teachers from a comment made by one of her peers. "One of the teachers said, 'It must be really hard for you with French because no one has anything to share,' and I thought, Oh ... yeah, it is!"

David was fortunate in finding a peer who was not only able to anticipate David's needs, but who continually did things to help David meet those needs. "I remember stepping out of my room and when I came back another teacher had given me a whole slew of materials for the first week of teaching." When David realized that this particular teacher was not only aware of his needs, but was more than willing to help, David felt comfortable in initiating requests for support.

When JoAnne was nominated for a first-year teaching award, she attributed her success to the help she received from others and thus felt

undeserving of the recognition. A comment from her principal allowed her to see her own value more clearly:

He said to me, "If you don't take credit for things, you're just going to burn out. You have to look at things and say, 'I did this.'" That really made a lot of sense to me. I really felt a lot better after that.

At other times these first-year teachers knew exactly what they were looking for. They experienced considerable frustration when these needs were not met and elation when they found the help they needed. David was very appreciative of two staff members who were continually available to help him meet his needs. "I was very fortunate that I met two special people on the staff who last year and this year have provided me with strength, ideas to pursue my goals."

For Barbara, the need to meet the expectations of others caused a continual sense of anxiety and frustration. "I didn't know exactly what was expected of me and that really upset me. You can do as much as you want extra, but these things have to be done and I never found out what those things were." Her peers' lack of awareness of her need for guidance did not allow them to provide the support that she needed to overcome her feelings of isolation.

Linda found other teachers very helpful in providing her with specific information and resources. However, even with support from peers, she felt a deep sense of frustration at her inability to accumulate what she considered to be an adequate variety of concrete resources with which to implement the kind of program she desired. Ideas presented at inservices may have been useful to teachers in other stages of career development. For Linda they were frustrating. "I had lots of ideas. I didn't need ideas. I needed concrete things to work with."

The four novices also gained different kinds of support from teachers in different career stages. Although experienced teachers could provide a wealth of ideas, resources, and a model for emulation, their competence could also magnify the novices' sense of inadequacy. JoAnne found this experience in her relationship with her consultant. He was extremely helpful in providing JoAnne with resources and spent a lot of time discussing her concerns. However, when JoAnne made comparisons, she felt inadequate. "The consultant had a wonderful program, just excellent and I thought about that a lot and made comparisons and that was really hard on myself. He did it. I should be able to do that too."

Experienced teachers seldom provided the same type of support found in relationships with peers at the same developmental stage. Barbara felt a close bond with a teacher who had little experience. "She'd been teaching a couple of years and she knew what I was going through."

Linda also perceived a difference in the kind of support she received from experienced and novice teachers:

I was lucky that there were three first-year teachers at our school. We supported each other a great deal. It was moral support more or less because we were all teaching very different things. We all knew that we were going through the same thing. It was different support than what you get from other teachers.

When the teachers in this study were given support appropriate to their needs, it provided them with the resources and information that enabled them to make growth choices. Inappropriate support that did not meet present needs did not promote growth and often led to regression choices.

Need for Concreteness and Specificity

Although the teachers in this study felt well prepared to teach, their abstract generalizations about teaching, limited classroom experience, and persisting student perspective toward teaching left them less well prepared than they had anticipated. When they entered the classroom as teachers, they experienced an overwhelming need for specific, concrete resources and techniques that would help them to cope with hundreds of daily practical problems. They were also unprepared for the variety of tasks that they had never considered as part of a teacher's role but now had to perform quickly and efficiently if they were ever going to have time to accomplish their major task—teaching children.

JoAnne, with help over the summer from the consultant, felt quite confident about her program goals and her ability to meet them. However, she soon discovered that a lack of resources and her unfamiliarity with system procedures thwarted her attempts at implementation:

There is so much that is just a total mystery. Some of it is really district specific. Like the book depository and warehouse. What is a warehouse? It would be really helpful if someone explained that to us so we would know where to find stuff.

In order to set realistic expectations for self and students, these first-year teachers turned to their peers in an attempt to quickly and vicariously absorb the practical experience that they so desperately needed. Linda “discussed with other teachers what is acceptable, where to set limits. [She] found that lots of times [her] standards were a lot higher than they should have been.” Linda's sense of urgency to develop the competence that she perceived in her peers often led her to quickly accept the status quo.

David also discussed expectations with peers, but he first needed to feel that they fit with his own belief system before accepting them. “Classroom discipline aspects were more talking to people and feeling what I felt good with and what I could work with with my own beliefs.” David also received incredible support in the practical aspects of his actual teaching from another teacher:

From the very first day he made special efforts to provide me with resources, models, and suggestions for teaching. He often came into the room and sat in on lessons and then he would go over them with me. He would always emphasize the positives and reaffirm my achievements. Yet at the same time he would focus in on areas that could be improved. From these talks I felt very much a part of what it meant to be a teacher.

The novices also looked to peers for examples of resource materials to use as models for developing their own materials. As David states, “You need something to fall back on. Maybe you don't always use them, but they're

there, like a security blanket. There's something there to refer to that you can try."

Linda found her peers very supportive in providing resources that they thought might be useful. Once she had concrete examples of materials, she found it much easier to create her own. "After I had a look at a unit that was all put together I thought, 'OK. I can do that.' I always had an idea that it was so much more."

These novices seemed to be able to create new materials from models of other appropriate resources. However, adaptation of inappropriate resources to meet their own specific needs was much more difficult. JoAnne often found herself in this position because she perceived the needs of her special education students as different from those in regular classes. "I always wondered, 'Well, how do I modify that?' If I could talk to someone and say, 'Well, this is what I'm doing,' it seemed to be a lot more productive." She looked to the experience of others who would be able to see the generalities that she could not identify in her specific needs. Being overwhelmed by the need for immediate specific solutions did not allow the novices time to reflect on the abstractable generalities for which their problem was only one example.

The general nature of many inservice sessions often did not meet the need for solutions to perceived particular needs. JoAnne found one-to-one support much more helpful. "The science consultant was really helpful and just kind of let me wander through the materials and pick her brains and that was really good. I found that a lot more helpful than going to sessions."

Support Through Comparison with Others

Williams (1986) states that "beginning teachers have a difficult time determining success. They gain satisfaction from the personal and academic gains their students make. Teachers who identify items against which to measure their success refer to sources of satisfaction and reward" (p. 200).

The teachers in this study found their need to compare themselves with others a double-edged sword. On the one hand it allowed them to measure their successful growth as teachers. On the other it emphasized how much further they had to go. Peers who were aware of this dichotomy could help these first-year teachers focus on their own accomplishments and help them set realistic expectations for growth. As Linda stated:

I would see what they were doing in their classrooms, but they would say, "I've been teaching for ten years. It took me ten years to get this together so don't feel that in your first year you have to have the same kinds of things in place."

Barbara's perceived lack of acceptance and sense of isolation often caused her to see things from a me-them perspective. This tended to reinforce her sense of inadequacy and perpetuate the feeling of being unworthy of acceptance. "They come in with a smile on their face. I've been up all night. I'm so tired and still haven't accomplished nearly as much as they have." However, she did, as Williams (1986) suggests, measure her success through the accomplishments of her students. "What I really appreciated the most was

another teacher saying, 'Your kids were really great today,' or 'Your kids were doing something on the playground that was really nice.'"

Because JoAnne was the only special education teacher in the school, she was not able to identify any common elements for comparison with other teachers in the school. "There was no one to compare to and I think that was a real problem because I would only compare to some ideal in my head and that was really painful."

Need for Recognition

One of the primary goals of the teachers in this study was to prove to themselves and others that they could actually be teachers. Movement toward this goal was measured by student achievement and by how well one fit into the teaching subculture. As one is seen as a teacher by others, one begins to believe more strongly in the possibility of really becoming a teacher.

Recognition for successful accomplishments as a teacher was highly valued. As Barbara stated, "Our principal sent the occasional Happygram or thank you note for a particular job well done. This meant so much to me. I can't really express how much." This type of recognition let Barbara know that she was moving toward her goal of being seen as a teacher. However, Barbara did not receive this type of recognition often enough. "I guess the real complaint is that there is very little recognition for teachers." This lack of recognition also contributed to her sense of not being accepted into the teaching subculture of her school.

For JoAnne, recognition also presented problems. She was seen by others as very successful; however, this did not fit with her own perceptions of her competence. "I think I got a lot of recognition and I wasn't really comfortable with it. It was like, 'I don't know if I deserve this. I'm just kind of struggling through.'" The recognition put added pressure on her to be as competent as others perceived her to be. She was afraid that others would see too much and uncover the incompetence that she was attempting to hide. "I know there's a lot of things I'm doing really badly that I just want to sweep under the carpet." Also, being singled out for a first-year teaching award conflicted with her need to fit in as a regular member of the teaching subculture.

David was also sensitive to his need for appropriate recognition. He needed to be seen in his own uniqueness as a new teacher, but also did not want to be singled out from the group. "I think what was kind of nice was that there were two of us that came into the school—two new teachers, so I wasn't the only centered one."

The need to be recognized as a teacher by others needed to be carefully balanced with the need to fit into the teaching subculture in order for these first-year teachers to feel successful in achieving integration into their new role. Recognition needed to provide a sense of fitting in, of successfully doing things the way a teacher does. Being singled out made one feel different, conspicuous, and afraid.

Conclusion

Appropriate support provided the novices with nonjudgmental acceptance into the teaching subculture. It allowed them to feel like worthy contributors who were welcome additions deserving of guidance and support. It provided

specific information that enabled them to shape individual frameworks on which to build personal pedagogical competence. It recognized and encouraged the professional growth of the novices in moving toward pedagogical ideals. It provided explicit examples which brought to conscious awareness the pedagogically implicit knowledge that they possessed but were unable to effectively implement.

Appropriate support did more than provide models of behaviors and procedures that allowed the novices to be seen as teachers. Appropriate support gave them the courage to make growth choices that promoted movement toward the self-actualization of individual potential. As David summed up, "I am beginning to feel like a teacher. The strength that I get from my colleagues has made it much easier for me to accept my responsibilities as a teacher."

With this type of support, these novices could continue to develop professionally and take pride in *being* teachers.

This particular interpretation of the data illuminates one perspective of the support experiences of four first-year teachers. Other interpretations and perspectives are indeed possible and should be encouraged in order to uncover more of the mystery of becoming a teacher.

References

- Becker, C.S. (1986). Interviewing in human science research. *Methods*, 1, 101-124.
- Bollnow, O.F. (1961). Lived-space. *Philosophy Today*, 5, 31-39.
- Everett-Turner, L. (1985). Towards understanding the lived world of three beginning teachers of young children. *Alberta Journal of Educational Research*, 31, 306-320.
- Fullan, M. (1982). *The meaning of educational change*. Toronto, ON: OISE Press.
- Giorgi, A. (1975). Convergence and divergence of qualitative and quantitative methods in psychology. In A. Giorgi, C. Fisher, & E. Murray (Eds.), *Duquesne studies in phenomenological psychology* (Vol. 2, pp. 72-81). Pittsburgh, PA: Duquesne University Press.
- Goodman, J. (1987). Factors in becoming a proactive elementary school teacher: A preliminary study of selected novices. *Journal of Education for Teaching*, 13, 207-229.
- Griffin, G.A., & Hukill, H. (Eds.). (1983). *First years of teaching: What are the pertinent issues?* (R&DCTE Report No. 9051). Austin, TX: University of Texas at Austin.
- Klein, E. (1971). *Klein's comprehensive etymological dictionary of the English language*. New York: Elsevier.
- Lacey, C. (1977). *The socialization of teachers*. London: Methuen.
- Lortie, D.C. (1975). *Schoolteacher: A sociological study*. Chicago, IL: University of Chicago Press.
- Magnusson, K., Day, B., & Redekopp, D. (1988). *Skills are not enough: A concept paper on innovative strategies and services for youth in transition*. Unpublished manuscript, Canadian Guidance and Counselling Foundation, Ottawa.
- Maslow, A.H. (1986). *The farther reaches of human nature*. New York: Penguin.
- Olson, M.R. (1989a). *Learning to teach: The lived experiences of four first year teachers*. Unpublished master's thesis, University of Alberta.
- Olson, M.R. (1989b). Room for learning. *Phenomenology + Pedagogy*, 7, 173-184.
- O'Neal, S.F., & Hoffman, J.V. (1984). *Curriculum decision making and the beginning teacher* (R&DCTE Report No. 9058). Austin, TX: University of Texas at Austin. (ERIC Document Reproduction Service No. ED 251 439)
- Ryan, K. (1980). *Biting the apple: Accounts of first year teachers*. New York: Longman.
- van Manen, M. (1984). Practicing phenomenological writing. *Phenomenology + Pedagogy*, 2, 36-69.
- Williams, L. (1986). *Developmental patterns of teaching careers*. Unpublished doctoral dissertation, University of Alberta.

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Teachers' Practices With Regard to Oral Language¹

The study investigated how elementary teachers structure their classroom and the school day to permit students to talk. Detailed observations over a week were made in 12 randomly selected grade 3 classrooms and 12 randomly selected grade 6 classrooms to determine the amount of time spent under the conditions of Teacher Talking, Students Speaking Formally, Students Speaking Informally, and Quiet over all curriculum areas. Results indicated that most of the school day (78% of the activity time) was spent in either quiet work time or the teacher talking. Activities such as brainstorming, oral problem solving, student-led discussions and role playing received minimal time (in combination, less than 1% of the instructional activity time). Students Speaking Informally occurred most often during art, physical education, and writing periods. Female teachers allowed significantly more Students Speaking Formally than did male teachers ($F=4.97$, $p=.036$), but neither grade level taught nor numbers of years of teaching experience was significant with regard to any talk structure.

During the late 1960s and early 1970s, several studies indicated that talk in elementary school classrooms was dominated by the teacher. Teachers talked and students listened. Partly as a reaction to this teacher domination, and partly as a result of increasing attention being focused on the relationship of talk to learning (Britton, 1970; Langer, 1960; Vygotsky, 1962), the professional literature of the 1970s and the 1980s abounded with articles suggesting that students be given increased time during the school day for talking and that this talking be done during many different types of activities. The purpose of this study was to investigate whether there has been a shift in this teacher domination of classroom talk during the past 20 years and to investigate during which activities, if any, teachers encourage students to talk.

Furst and Amidon (1967) found that teachers talked during 45-50% of all class time, students talked during 27-30% of all class time, and 15-20% of the time the classroom was silent. Bellack, Kliebard, Hyman, and Smith (1966) found that 15 teachers talked 50% more than 345 pupils and that three fifths of all teacher talk was for the purpose of soliciting a student response. Flanders (1970), in analyzing teachers' classroom behavior, found approximately the same ratio of teacher to student talk as did Furst and Amidon. Several researchers (Edwards & Furlong, 1978; Hennings, 1975) replicated the general findings of Flanders during the 1970s. None of these studies indicated during which specific activities students were encouraged to talk,

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but clearly past research has revealed that teacher talk dominated the school day.

In the minds of many theorists and educators, this teacher domination of classroom talk was unfortunate as it seemed inconsistent with the growing knowledge of how children learn (Vygotsky, 1962). The idea that talk is central to the process of learning has gained prominence during the past 15 years (Chorny, 1981; Jones, 1988). The literature of the 1970s, 1980s, and early 1990s evidenced an abundance of articles suggesting that if teachers want children to take an active part in learning, it is important for the child to talk (Barnes, 1976, 1990; Barnes & Todd, 1977; Beebe, Steven, & Master-son, 1982; Edwards & Mercer, 1987). Students need time to talk and for this to happen, teachers must talk less.

Before proceeding, it seems important to note that not all research done in the 1970s and 1980s advocated the importance of student talk in the classroom. Researchers on teacher effectiveness have found that engaged time on task, academic emphasis in teaching content, and direct instruction carried out by the teacher were included among the correlates of effective teaching as measured by student achievement on standardized tests (Brophy & Evertson, 1974, 1976; Brophy & Good, 1986; Evertson, Anderson, & Brophy, 1978; Evertson, Emmer, & Brophy, 1980; Fisher et al., 1978; McDonald & Elias, 1976; Rosenshine, 1976; Soar & Soar, 1972; Tikunoff, Berliner, & Rist, 1975). Subsets of these studies conducted during reading and math lessons have suggested that students who were academically engaged under direct teacher supervision scored higher on standardized measures (Anderson, Evertson, & Brophy, 1979; Good & Grouws, 1977, 1979; Stallings, Cory, Fairweather, & Needels, 1977, 1978). Several studies (Brophy & Evertson, 1976; Soar, 1977; Solomon & Kendall, 1979; Stallings et al., 1977, 1978; Stallings & Kaskowitz, 1974) and have shown that successful teachers were strong, businesslike leaders who had high academic expectations for students. Less successful teachers were more child centered in that they allowed students to select their own activities and working arrangements (Good & Beckerman, 1978; Soar, 1977; Solomon & Kendall, 1979; Stallings & Kaskowitz, 1974; Stallings, Needels, & Strayrook, 1979). These child centered teachers often allowed students to talk with peers.

Clearly inconsistencies exist between a variety of teacher effectiveness studies and studies in language learning. Resolving these inconsistencies is impossible without further research. From the data presented in the above teacher effectiveness studies, it is difficult to ascertain the intent or amount of teacher organization present in the classrooms of less successful teachers. Did the teachers structure tasks that were to be completed by groups or pairs of individuals, or was the "talk time" simply time off task? In the Stallings and Kaskowitz (1974) and the Soar (1977) studies, nonacademic activities were defined as dramatic play, games, talk about home and family—not structured discussion groups or students helping one another on academic tasks. What parameters, if any, were placed on student self selection? Were the students trained in any way to be self selecting or were they left entirely to their own devices? These questions need to be answered. Certainly studies in which a child centered teacher was highly successful have been reported

(Edelsky, Draper, & Smith, 1983; Graves, 1983; Gunderson & Shapiro, 1986; Hansen, 1987; and Platt, 1984), and the social and academic contexts of these types of classrooms need to be compared with the social and academic contexts in the types of classrooms included in the teacher effectiveness studies.

Another important issue is the length of the data collection period. In general, observation during most of the teacher effectiveness studies took place over a period of a few days or weeks. Data from cooperative learning studies have suggested that to be successful groups must be well organized by the teacher, students must learn to work effectively in these groups, and that this learning takes time (Logan, 1986; Sharan & Shachar, 1988; Slavin, 1983). Groups of this nature need to operate for several months before a realistic evaluation is possible (Damon & Phelps, 1989; Wasserman, 1989).

Another possible reason for the discrepancies lies in the evaluation instrument. Standardized tests may not be the best means of evaluation when testing the benefits of talk in the classroom. Research has indicated that peer instruction and cooperative learning groups have led students to higher level cognitive responses than they were able to produce individually (Gilbert & Pope, 1986; Graybeal & Stodolsky, 1985; Sharan & Shachar, 1988; Trudge & Caruso, 1988). Damon and Phelps (1989), in working with 4th and 5th graders on problems in mathematics, found that students achieved deeper insights into concepts when allowed to collaborate with peers, but that peer collaboration was less successful for those tasks that relied on formulas and procedures. It is difficult to measure higher level cognitive responses on standardized tests. Phillips (1988) has suggested that the best measure of assessment is not a standardized test but the language of students in terms of their ability to put a point across, produce supporting facts, and sustain an argument.

Regardless of the inconsistencies that need to be resolved by further research, studies do exist that link student talk to learning. King (1989), in working with grade 4 students of high and average ability on computer assisted problem solving tasks, found that students working in small groups did use language to clarify meaning and to try a number of strategies for solving the problem. Webb and Kenderski (1984) reported that students' providing explanations for other students was associated with achievement, and current research is indicating that intermediate students can improve their reading comprehension through literature response groups (Eeds & Wells, 1989; Strickland, Dillon, Funkhouser, Glick, & Rogers, 1989).

Assuming, then, that talk can be a factor in the process of learning, several researchers, theorists, and educators have attempted to further explain the relationship between talking and learning. Edwards and Westgate (1987) have stated that talk allows the speaker to investigate how relationships and meanings are organized. Barnes (1990), Lindfors (1987), and Staab (1990) have noted that talk plays an important part in learning in that it helps one focus information, clarify ideas, and formulate opinions.

It is not only talk in general that is important but specifically talk with peers or talk in which the teacher acts as a facilitator (e.g., brainstorming sessions) rather than as a leader in absolute control. Chang and Wells (1988)

have noted that in collaborative talk the learner must have ownership of the task. When a teacher is in control of a group, the freedom of pupils to introduce their own ideas is highly curtailed (Edwards & Mercer, 1987). The teacher retains control over what is said and done, what decisions are reached, and what interpretations are put on experiences. Often in this situation students may not have an opportunity to clarify their ideas or to formulate their own opinions.

Recent research has indicated that students are able to formulate opinions and to clarify ideas in situations where the teacher is not in control. Eeds and Wells (1989) reported that grade 6 students were able to engage in active inquiry in literature response groups in which the teacher was only a participant. Webb, Ender, and Lewis (1986) found that in debugging computer problems, groups that carried out abstract planning strategies without the teacher were more likely to learn the material.

The benefits of peer interaction are numerous. Talk with peers often clarifies both ideas and instructions (Cohen, 1989). Exploratory talk of students in small groups (i.e., peer talk) is one means by which assimilation and accommodation of new knowledge to the old is carried out. Cazden (1986) has stated that students are given more opportunity during talk with peers to ask questions of an informational nature and that questions asked of teachers are often procedural rather than informational. The asking of informational questions is critical to the learning process.

Talk is important not only for learning but as a way to improve oral communication skills. Children should be offered many opportunities to talk, and it should not be assumed that they enter the classroom being able to communicate effectively (Berliner & Casanova, 1988; Pigford, 1988; Stewig, 1988). To improve oral communication skills, students should be offered opportunities to talk to each other as well as to the teacher (Pigford, 1988; Stewig, 1988). Peer interaction provides important social experiences that foster skill development not achieved during interaction with adults (Cryan, 1984).

Given that the past 10 to 15 years have produced an explosion of information on why student talk is important in the classroom and that this information has, in many cases, reached the form of teacher manuals (Inner London Education Authority, 1984; Province of British Columbia Ministry of Education, 1989), one might wonder to what extent this information has changed the pattern of teacher domination of talk in the classroom. No recent studies have been reported, but several educators have expressed opinions. Gambell (1980) has stated that students today are probably being given more opportunities than ever to talk, to interact orally with their peers and to learn through oral communication. Edwards and Westgate (1987) have noted that innumerable teachers are now becoming interested in oral language in the classroom and are enrolling in inservice courses that are increasing their awareness of the place of oral language in the school day. Awareness of the value of oral language does not necessarily translate into increased student talk, however.

Not all educators agree that change is taking place at the level of classroom interaction. Jones (1988) has stated that in spite of the quantity of

theoretical work in the area, there has been very little real change in the extent of productive talk that students actually engage in during the teaching day. This opinion was based on informal classroom observation rather than research. Chilcoat (1987) has agreed that little has changed since the studies conducted in the late '60s, but again this opinion is not based on recent research.

Research is needed to determine if the information on the value of oral language has reached the classroom at the level of day-to-day interaction. If change has occurred, is it more evident among any particular group of teachers? Allen, Brown, and Yatvin (1986) have suggested that if a change in the ratio of teacher to student talk has been made, it is more evident in primary classrooms than in intermediate classrooms. Edwards and Westgate (1987) have suggested that change may be more evident in the classrooms of teachers who have had advanced training (e.g., inservice) in the area of oral language. The following study is one validation of the opinions that have been expressed in the literature over the past several years.

Specifically the researcher asked the following questions:

1. How do teachers structure the school day with respect to quiet time, student talk, and teacher talk across various curriculum areas?
2. Does the way a teacher structures the school day with respect to quiet time, student talk, and teacher talk differ on the basis of grade level taught, sex of the teacher, number of years of teaching experience, or the number of reading and/or language arts courses taken?

Method

Subjects

The subjects in the study were 12 randomly selected grade 3 and 12 randomly selected grade 6 teachers from a pool of over 150 teachers at each grade level. The subjects taught in a large suburban area of Vancouver, British Columbia, Canada. In selecting the subjects for the study, the researcher obtained a list of all grade 3 and all grade 6 teachers from the school district office. Grades 3 and 6 were chosen because the researcher wanted to obtain a representation from both a primary and an intermediate grade level.

Procedure

The randomly selected subjects were telephoned at their schools and asked to participate in a classroom interaction study. At no time was oral language mentioned. Subjects were told that they would be given the details of the study when it was finished, but to preserve the integrity of the study no specific details could be provided before the data were collected. Subjects were told that a research assistant would observe in their classrooms for a period of one week and code the classroom interaction.

Classroom observations took place during the months of October and November, excluding the week before Halloween. All classroom observations in each classroom were for a period of one week and included all classroom activities from the beginning of school Monday morning until the close of school Friday afternoon. Periods before school, recess, and lunch time were not observed. Each research assistant observed in one classroom for a period of one week; thus it took four research assistants a period of six weeks to

observe in the 24 classrooms. On average each classroom was observed for about 1,300 minutes during the week.

On the Friday following each classroom observation, teachers were asked by the research assistant to provide some demographic information. Teachers were asked how many years they had taught and how many reading and/or language arts courses had been taken at the university level. The research assistant also noted the sex of the teacher and the grade level taught.

Prior to data collection, the four research assistants received one week's training on the use of the classroom observation form which appears as Table 1. Training took the form of initial explanation of the form, the coding of videotapes of classrooms, and the coding of actual sample classrooms. No sample classrooms used for training were part of the randomly selected sample used in the study.

The classroom observation form appearing as Table 1 was designed to record four basic classroom conditions: Teacher Talking, Students Talking Formally, Students Talking Informally, and Quiet Classroom. The category of Teacher Talking included four subcategories: the teacher reading aloud, the teacher lecturing, the teacher leading a question-and-answer session, and the teacher talking to individual students as he or she was helping them with their work. If the teacher spoke continuously for more than 30 seconds, the talk was coded as teacher lecturing. If the teacher asked a question of students within that 30 seconds, the talk was coded as question-and-answer even though the teacher was doing the majority of the questioning.

The category of Students Speaking Formally included those times when the teacher specifically called on one or more students to give a presentation to the class or a small group. The teacher expressly had given the floor to one student or a group of students. The subcategories for Students Talking Formally were an individual student giving an oral report, group choral reading or speaking, a dramatic production, an individual student reading aloud to a group, or a student debate.

The category of Students Speaking Informally included those times when students had the teacher's permission to speak but the talk was of a less formal, spontaneous nature. The teacher was allowing talk, but had not given the floor expressly to one student or group of students. The subcategories for Students Talking Informally were a student-led discussion either in small or large groups (the teacher may have been a participant but was not the designated leader, or the teacher was not a direct member of the group), role playing or spontaneous drama, brainstorming, group problem solving, students informally helping each other such as in a partner situation, and student initiated questions.

The category of Quiet Times was recorded when there was no oral language in the room and when the students were talking without the teacher's permission. If students were talking informally during a work time and the teacher either gave them permission to do so or made no effort to stop the talking, the time was recorded as SIHX (students informally helping one another). If students were talking during work time and the teacher asked

Table 1
Instruction Page of the Classroom Observation Form

General Instructions for Structured Observation Form

General Rules

1. Only oral language will be observed.
2. Focus of the observation is on the teacher or on the activity that the teacher assigned, not on what the students are doing if these differ.
3. The unit of observation is an entire activity (e.g., the morning exercises or the brainstorming session).
4. Each activity will be timed to the nearest minute. If an activity lasts less than 30 seconds, it will not be recorded.

Abbreviations or codes

Talk Structure

Note who is talking and in parentheses the nature of that talk. TT = Teacher talking, STF = formal student talk, STI = informal student talk, QC = quiet classroom.

TTRA	=	teacher reading aloud
TTLX	=	lecture
TTQA	=	question/answer/comment
TTSX	=	teacher helping individual student
SFRT	=	individual student giving oral report
SFCS	=	group choral reading or speaking
SFDR	=	dramatic production
SFRX	=	individual student reading aloud to group
SFDT	=	student debate
SIDX	=	student led discussion
SIRP	=	role playing or spontaneous drama
SIBX	=	brainstorming
SIPS	=	group problem solving
SIHX	=	students informally helping each other, reading to each other or talking with permission
SIQX	=	student initiated questions
QCQX	=	no oral language – quiet work time
QCUS	=	quiet work time, students talking without permission

Curriculum Activity

ME	=	morning exercises	AX	=	art
TX	=	transition	FT	=	free time
RX	=	reading	HX	=	housekeeping activities
LO	=	language arts oral	OL	=	oral language instruction
LW	=	language arts written	ST	=	show and tell or news
MX	=	math	PE	=	P.E.
SS	=	social studies	MU	=	music
SX	=	science	FR	=	French

Note: < indicates that two or more activities are happening simultaneously.

them to be quiet, or indicated that quiet was required, then the time was scored as QCUS (quiet work time, students talking without permission).

These four talk conditions (i.e., Teacher Talking, Students Talking Formally, Students Talking Informally, and Quiet) were measured across all curriculum areas. The codes for these curriculum areas appear at the bottom of Table 1. Four general rules for the observations are also shown in Table 1.

The second page of the classroom observation form, which is shown in Table 2, gives an example of how the coding was actually recorded. The coder indicated the talk structure (e.g., TTQA-teacher question/answer/comment) in the first column, the curriculum area (e.g., MX-mathematics) in the second column, the time the activity began in the third column, and the time the activity stopped in the fourth column.

If two talk structures were happening simultaneously in the classroom (e.g., one group was working quietly while the teacher was lecturing to a second group), both activities were coded and these simultaneous talk structures were indicated by a < mark.

The researcher spent one day per week with each of the research assistants to independently code the oral language in the classroom. This procedure was done for the purpose of providing a measure of interrater reliability. Two measures of time were taken. The total amount of time spent under one talk structure in one curriculum area was calculated and labeled T time (i.e., total time). The number of times a talk structure occurred under each curriculum area was calculated and labeled N time (number of incidents). N time was the total number of times a talk structure occurred without regard for its duration, and T time was the duration measured to the nearest minute. Pearson Product Moment Correlations were calculated for both T time and N time as the coding of the research assistant was correlated with the independent coding of the researcher. The correlation between the two codings for T time was equal to .8252 and the correlation between the two codings for N time was equal to .9030.

Results

Table 3 indicates the total number of minutes spent in each talk structure across all curriculum areas. SFDR (student dramatic production) and SFDT (student debate) have not been included in the table or subsequent tables as no evidence of these talk structures was observed. The number in each row indicates the total number of minutes that each individual teacher spent under the condition of each talk structure. The categories are not mutually exclusive, because if two or more talk structures were occurring simultaneously all talk structures were recorded. The total shown in the right-hand column, Total Activity Time, is the sum of the values in the row. It is an indication of the gross amount of activity in the class.

Table 4 indicates the proportion of total activity time each teacher spent in each of the major talk structures. The values were determined by cumulating the categories from Table 3 and dividing by total activity time.

Table 5 indicates the total number of minutes spent in each of the four major categories of talk structures (i.e., Teacher Talking, Students Speaking Formally, Students Speaking Informally, and Quiet) categorized by each

Table 2
Mock Sample of a Coded Observation Form

Teacher's Name _____ Grade _____ School _____ Date _____			
Time Observation Began _____ Time Ended _____ Recess _____ Lunch _____			
Talk Structure	Curric. Area	Time Started	Time Ended
TTQA	MX	10:42	10:43
TTLX	MX	10:43	10:44
QCQX	MX	10:44	10:45
<QCQX TTSX	MX	10:45	10:46
<QCQX TTQA	MX	10:46	10:47
<QCQX TTSX	MX	10:47	11:08
TTQA	OL	11:08	11:10
QCQX	MX	11:10	11:31
QCUS	TX	11:31	11:32
TTLX	SS	11:32	11:33
TTQA	SS	11:33	11:34
TTLX	SS	11:34	11:35
<TTSX QCQX	SS	11:35	11:59
TTLX	TX	11:59	12:00

Table 3
Duration in Minutes per Teacher of Talk Structures Over One Week

Teacher	QCOX	QCUS	SFRT	SFCS	SFRX	SIDX	SIRP	SIBX	SIPS	SIXH	SIQX	TTRA	TTLX	TTQA	TTSX	Total*
1	796	221	5	36	9	0	0	0	0	244	24	19	293	250	472	2369
2	284	467	11	99	9	0	0	9	1	376	0	58	259	248	490	2311
3	94	68	93	43	34	0	0	2	1	760	0	24	93	146	880	2238
4	287	186	91	0	22	31	0	7	0	469	72	12	160	202	676	2215
5	620	78	45	10	48	0	0	1	0	211	0	55	49	389	614	2120
6	489	100	37	29	59	0	0	3	0	276	4	29	96	437	533	2092
7	712	87	0	0	16	1	0	0	0	159	7	96	289	210	498	2075
8	750	37	40	8	16	0	0	0	0	173	19	31	302	170	501	2047
9	339	143	94	15	15	0	0	34	0	366	0	54	198	114	654	2026
10	166	16	0	125	31	70	0	0	9	533	100	16	190	83	555	1894
11	435	75	46	30	80	0	0	5	0	106	0	35	531	126	415	1884
12	685	46	44	5	0	100	4	0	111	97	4	0	71	175	515	1857
13	362	39	32	63	18	7	10	24	0	311	0	78	339	223	342	1848
14	546	44	56	0	2	0	0	7	0	251	0	135	244	176	346	1807
15	340	80	82	15	26	0	0	0	2	267	13	53	202	265	498	1751
16	194	85	63	62	0	12	0	0	0	515	21	0	209	252	321	1734
17	786	31	0	0	3	0	0	0	0	241	18	6	206	116	286	1693
18	600	8	104	22	14	14	0	0	3	206	2	26	164	242	274	1679
19	312	26	0	15	64	10	0	0	0	254	44	81	472	181	194	1653
20	344	60	0	109	31	0	0	0	0	317	7	30	175	266	302	1641
21	591	39	46	0	37	9	19	0	0	94	2	28	224	186	360	1635
22	528	8	13	41	109	0	0	4	0	125	5	84	111	194	368	1590
23	441	76	23	14	10	10	0	0	1	42	11	51	193	288	386	1546
24	437	12	62	5	17	0	0	0	0	317	15	50	190	113	324	1542
Totals:	11,138	2,032	987	746	670	254	33	96	128	6710	368	1,051	5,260	5,052	10,714	

QCQX	--quiet, no oral language	QCUS	--students talking without permission	SFRT	--student giving oral report
SFCS	--group choral reading/speaking	SIDX	--student led discussion	SFRX	--student reading to group
SIBX	--brainstorming	SIPS	--group problem solving	SIRP	--role playing
SIQX	--student initiated questions	TTRA	--teacher reading aloud	SIXH	--students helping one another
TTQA	--teacher question/answer	TTSX	--teacher helping individual student	TTLX	--teacher lecturing

*NOTE:
Total = total number of activity minutes (activity time)
Categories of talk structures are not mutually exclusive

curriculum area. The final column in this table indicates the proportion of time spent in each curriculum area over the total number of minutes all subjects were observed.

Tables 3, 4, and 5 present a picture of how teachers structured their school day but do not answer the second research question. The second research question explored the notion of demographics. Does the way a teacher structures the school day with regard to Teacher Talk, Students Talking Formally, Students Talking Informally, and Quiet differ on the basis of grade taught, number of years of teaching experience, number of reading or language arts courses taken at the university level, or sex of the teacher? For the purpose of analysis, the sex of the teacher and whether the teacher taught grade 3 or grade 6 was obvious. Years of teaching experience was divided into two groups, those teachers who had taught 10 years or less and those teachers who had taught more than 10 years. Number of reading and/or language arts courses taken was divided into two groups—five or less and more than five. The data were subjected to a one-way analysis of variance for both T time and N time across each of the above demographic variables across each of the four major talk structures (i.e., Teacher Talking, Students Talking Formally, Students Talking Informally, and Quiet). For the purpose of these analyses,

Table 4
Proportion of Total Activity Time for Each Major Talk Structure

I.D. From Table 3	QC	SF	SI	TT	Grade Level Taught
2	32	4	16	46	3
3	7	8	34	51	3
5	33	4	10	52	3
6	28	6	13	52	3
9	24	7	18	51	3
10	10	9	37	44	3
11	27	8	6	59	3
13	22	6	19	53	3
15	24	7	16	53	3
19	21	5	19	56	3
23	34	3	5	59	3
24	29	5	22	43	3
1	43	2	11	44	6
4	21	5	25	47	6
7	38	1	8	53	6
8	39	3	9	49	6
12	39	2	16	41	6
14	32	3	14	50	6
16	16	8	32	46	6
17	48	0	15	36	6
18	36	8	13	45	6
20	25	9	19	47	6
21	38	5	8	49	6
22	34	11	8	47	6

Table 5
Amount of Activity by All Teachers on Each Talk Structure for Each Curriculum Area

Curriculum Area	OC	SF	SI	TT	Total	Proportion of Total Activity
Art	320	0	1,026	1,371	2,717	6
Computer Instruction	5	0	69	60	134	0
French	41	29	5	147	222	0
Free Time	225	3	858	602	1,688	4
Housekeeping	808	74	711	2,484	4,077	9
Library	176	0	157	188	521	1
Language Arts, Oral	74	220	96	370	760	2
Language Arts, Written	2,952	182	1,041	4,744	8,919	20
Morning Exercises	102	56	186	481	825	2
Music	237	432	50	340	1,059	2
Math	2,402	74	845	4002	7,323	16
Oral Language Instruction	197	0	23	337	557	1
Physical Education	218	16	905	846	1,985	4
Reading	3,085	501	291	2,727	6,604	15
Socials	947	224	539	1,305	3,015	7
Show-tell	16	530	30	115	691	2
Science	470	62	259	1,117	1,908	4
Transition	895	0	498	841	2,234	5
Totals:	13,170	2,403	7,589	22,077	45,239	100

Codes:

- QC—quiet classroom
- SF—students talking formally
- SI—students talking informally
- TT—teacher talking

all curriculum areas were combined. The only significant difference at the .05 level appeared in T time for sex of teacher during Students Talking Formally. Female teachers had significantly more Students Talking Formally than did male teachers ($F=4.97, p=.036$). A significant difference was not found in any other analysis of variance.

Discussion

The total activity of time varied from teacher to teacher because several activities could occur simultaneously. On average, although there is a variation of 7% to 48%, teachers spent 29% of the activity time during the school day asking students to work quietly and independently. Another 49% of the activity time was consumed by teachers talking. These percentages were similar to those found by Furst and Amidon (1967). When students were allowed to talk, this talk was evidenced mostly by students helping one

another informally during work times. During these work times, typically, students were allowed to chat with one another, to ask each other questions regarding their work, or to share what they were doing. Earlier studies did not describe student talk, so a comparison of the activities that elicited student talk is impossible. This informal talk consumed 15% of the activity time. If these figures for Teacher Talk, Quiet Time, and Informal Student Talk during work time are totalled, they account for 93% of the activity time during the school day.

These figures leave 7% of the activity time to be accounted for by other forms of talk. Students spent very little time reading aloud to one another or in small groups. Reading aloud accounted for 1% of the activity time and 12 of the 24 teachers spent less than 20 minutes in a week at this talk structure. Students talking in front of a large or small group such as in Show-and-Tell, or reporting the news or a current event, occurred slightly more often—2.2% of the total activity time. Eight of the 24 teachers spent less than 20 minutes per week at this talk structure. The talk structures of student-led discussions (e.g., small group discussions in which the teacher was not conducting a question-and-answer session), role playing, brainstorming and problem solving, in combination, comprised about 1% of the activity time. Where these types of talk structures did occur, they were localized largely in one to two classrooms and absent in other classrooms (e.g., one teacher spent a total of 111 minutes in one week in a problem solving activity whereas the other 23 teachers spent a combined total of 17 minutes).

If one simply looks at the figures, one must conclude that the overall amount of students' oral language in the classroom has not changed significantly in the past 20 years. Even though numerous articles have been published and recommendations have been made that children be encouraged to engage in many types of oral language activities as a means for learning, it is apparent that these recommendations have not become a reality in today's classrooms. Corson (1984) speculated that talking takes time, and upper elementary grade teachers are too busy covering curriculum to allow time for discussion and generating ideas by means of talk. According to the present study this also is true in the primary grades.

The study did provide information as to the type of activity students engaged in when talk was encouraged. This information was not available in previous studies. Even if this information is now available, it is difficult, if not impossible, to state how much time during the school week teachers should spend on various types of talking activities. In effect, it is difficult to answer the question of how much is enough. It would be unwarranted to state that teachers should spend 10% of the school day on brainstorming, another 10% on problem solving, and so forth. Neither should teachers feel that these talk structures should be practiced for themselves as isolated activities. If students are to use oral language as a means for learning, then teachers should consider many types of talk structures as integral to curriculum areas (Staab, 1990). In mathematics children may need to brainstorm as a means of thinking through possible methods for solving a problem. In science children may need to problem solve as a way to discover alternative means for completing an experiment. In reading children may need to role play as a

means for understanding a character's motivation. In social studies children may need to form small discussion groups as a means to review what they have learned. If any tie-in can be made with the teacher effectiveness studies, time spent talking must be time on task. To increase student talk in the classroom teachers need to vary the pattern of lecturing or leading a question-and-answer session and then assigning seat work. If students are to use oral language as a means for learning, then they need many opportunities to talk about what they are doing (Beebe, Steven, & Masterson, 1982; Edwards & Mercer, 1987; Lindfors, 1987).

It is also important to note that in the study there was considerable variation among individual teachers. Previous studies simply quoted averages. It may be misleading to state what "all" teachers do. All teachers asked for quiet work time, allowed students to talk within work times, lectured, asked questions, and helped individual students, yet the range of time spent during each of these talk structures was large. Individual variation was not connected to grade level taught, number of years of teaching experience, the number of reading and/or language arts courses taken at the university level, or sex of the teacher. Female teachers did provide significantly more opportunities for students to speak formally than did male teachers, yet beyond this one difference individual teachers seemed to vary in the use of talk structures in accordance with their own teaching style and not in accordance with the above demographics. Even though it is true that few teachers engaged in such talk structures as brainstorming and role playing, there was much individual variation in the use of the more common talk structures (e.g., teacher talking, quiet time). In discussing their individual profiles with the teachers involved in the study, many seemed surprised at the lack of various talk structures that had been observed.

In interviews only 21% of the subjects felt that a quiet classroom is a more productive classroom, and 98.5% felt that oral language should be a way to learn in all content areas. Even teachers who favored a quiet classroom felt that productive talk (i.e., talk for the purpose of learning) was valuable. Perhaps teaching is such a complex act that teachers often are unaware of the amount of time they spend talking and the amount of time they allow students to talk. The reasons for this discrepancy between belief and action need to be explored in further research.

In examining the number of minutes spent in each of the four main categories of talk structures (i.e., Teacher Talking, Students Speaking Formally, Students Speaking Informally, and Quiet) over each curriculum area, it seems that teachers allow students to talk mainly during art, free time, and physical education. This may be one indication that teachers still feel that talk is not something one uses for serious learning but rather a time merely to chat. The one exception to this notion was the amount of Students Speaking Informally that occurred during language arts, written. The writing process as elaborated by Graves (1983) is a method for teaching writing that encourages students to work together and to serve as audiences for each other's writing. As many classrooms included in the study were engaged in this form of writing instruction, much of the language categorized as Stu-

dents Speaking Informally happened during the language arts, written period.

In examining the amount of total time over all talk structures spent in each curriculum area, it became apparent that language arts/reading consumed 38% of the week's activity time. Mathematics consumed 16% of the week's activity time. If transition times and housekeeping activities were combined, they consumed 14% of the week's activity time, while science consumed 4% of the time and social studies consumed 7%. It seems desirable that transition and housekeeping procedures become streamlined so that the extra time might be distributed over such curriculum areas as social studies and science. None of the teachers in the study had less than five years teaching experience, so it seems that this need to streamline peripheral activities is not symptomatic of only the beginning teacher.

If talk is so important for learning, why is not more of it going on in today's classroom? Is the old adage "A quiet classroom is a good classroom" still being given credence? Are teachers unaware of the talk structures that are happening within their classrooms? Do teachers view talk as only a way to socialize rather than a way to learn? Are teachers unaware of specific techniques for conducting brainstorming sessions and for structuring small group discussions? Whatever the cause, it seems important for researchers, teacher educators, and curriculum specialists within school districts to discover the answers to these questions so that practice is more aligned with recent theory and research.

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References

- Allen, R., Brown, K., & Yatvin, N. (1986). *Language learning through communication*. Belmont, CA: Wadsworth.
- Anderson, L., Evertson, C., & Brophy, J. (1979). An experimental study of effective teaching in first grade reading groups. *Elementary School Journal*, 79, 193-223.
- Barnes, D. (1976). *From communication to curriculum*. Harmondsworth, UK: Penguin.
- Barnes, D. (1990). Oral language and learning. In S. Hynds & D.L. Rubin (Eds.), *Perspectives on talk and learning* (pp. 41-57). Urbana, IL: National Council of Teachers of English.
- Barnes, D., & Todd F. (1977). *Communicating and learning in small groups*. London: Routledge and Kegan Paul.
- Beebe, W., Steven, T., & Masterson, J. (1982). *Communicating in small groups*. Glenview, IL: Scott Forsman.
- Bellack, A., Kliebard, H., Hyman, R. & Smith, F. (1966). *Language of the classroom*. Columbia, MO: Teachers College Press.
- Berliner, D., & Casanova, U. (1988). Are schools hampering language competency? *Instructor*, 97(7), 14-15.
- Britton, J. (1970). *Language and learning*. London: Penguin Press.
- Brophy, J., & Evertson, C. (1974). *Process-product correlations in the Texas teacher effectiveness study: Final report* (Research report no. 74-4). Austin, TX: Research and Development Center for Teacher Education, University of Texas at Austin. (ERIC Document Reproduction Service No. ED 099345)
- Brophy, J., & Everston C. (1976). *Learning from teaching: A developmental perspective*. Boston, MA: Allyn and Bacon.
- Brophy, J., & Good, T.L. (1986). Teacher behavior and student achievement. In M.C. Wittrock (Ed.), *Handbook of research on teaching* (3rd ed., pp. 328-375). New York: Macmillan.

- Cazden, C. (1986). Classroom discourse. In M. Wittrock (Ed.), *Yearbook of research on teaching* (pp. 432-463). New York: Macmillan.
- Chang, G.L., & Wells, G. (1988). The literate potential of collaborative talk. In M. Maclure, T. Phillips, & A. Wilkinson (Eds.), *Oracy matters* (pp. 95-110). Philadelphia, PA: Open University Press.
- Chilcoat, G.W. (1987). Teacher talk: Keep it clear. *Academic Therapy*, 22, 263-271.
- Chorny, M. (1981). A Canadian perspective: Focus on talk. *English Education*, 13(1), 32-35.
- Cohen, E.G. (1989). Can classrooms learn? *Sociology of Education*, 62(2), 75-94.
- Corson, D. (1984). The case for oral language in schooling. *Elementary School Journal*, 83, 265-285.
- Cryan, J.R. (1984). Forms and functions of child-to-child interaction in classroom settings: A review. *Childhood Education*, 60(5), 354-360.
- Damon, W., & Phelps, E. (1989). Critical distinctions among three approaches to peer education. *International Journal of Educational Research*, 13(1), 9-19.
- Edelsky, C., Draper, K., & Smith, K. (1983). Hookin' em in at the start of school year in a "whole language" classroom. *Anthropology and Education Quarterly*, 14(4), 257-281.
- Edwards, A., & Furlong, V. (1978). *Language and teaching: Meaning in classroom interactions*. London: Heinemann.
- Edwards, A.D., & Mercer, N. (1987). *Common knowledge: The development of understanding in the classroom*. New York: Methuen.
- Edwards, A.D., & Westgate, D.P.G. (1987). *Investigating classroom talk*. London: Falmer.
- Eeds, M., & Wells, D. (1989). Grand conversations: An exploration of meaning construction in literature study groups. *Research in Teaching English*, 23(1), 4-29.
- Evertson, C., Anderson, L., & Brophy, J. (1978). *Texas junior high school study: Final report of process-outcome relationships* (Report No. 4061). Austin, TX: Research and Development Center for Teacher Education, University of Texas.
- Evertson, C., Emmer, E., & Brophy, J. (1980). Predictors of effective teaching in junior high mathematics classrooms. *Journal for Research in Mathematics Education*, 11, 167-177.
- Fisher, C., Marliave, R., Cahen, L., Dishaw, M., Moor, J., & Berliner, D. (1978). *Teaching behaviors, academic learning time and student achievement: Final report of Phase III-B, beginning teacher evaluation study*. San Francisco, CA: Far West Laboratory for Education Research.
- Flanders, N. (1970). *Analyzing teaching behavior*. Reading, MA: Addison-Wesley.
- Furst, N., & Amidon, E. (1967). *Interaction analysis: Theory, research and application*. Reading, MA: Addison-Wesley.
- Gambell, T.J. (1980). *Talk contexts and speech styles: Planning for oral language*. Paper presented at annual meeting of Canadian Council Teachers of English, Halifax, NS. (ERIC Document Reproduction Service No. ED 193637)
- Gilbert, J., & Pope, M. (1986). Small group discussions about conceptions in science: A case study. *Research in Science and Technological Education*, 4(1), 61-76.
- Good, T., & Beckerman, T. (1978). A naturalistic study in sixth grade classrooms. *Elementary School Journal*, 78, 192-201.
- Good, T., & Grouws, D. (1977). Teaching effects: A process-product study in a fourth grade mathematics classroom. *Journal of Teacher Education*, 28(3), 49-54.
- Good, T., & Grouws, D. (1979). The Missouri mathematics effectiveness project: An experimental study in fourth grade classrooms. *Journal of Educational Psychology*, 71(3), 355-362.
- Graves, D. (1983). *Writing: Teachers and children at work*. Exeter, NH: Heinemann.
- Graybeal, S., & Stodolsky, S. (1985). Peer work groups in elementary schools. *American Journal of Education*, 93(3), 409-428.
- Gunderson, L., & Shapiro, J. (1986). Some findings on whole language instruction. *Reading-Canada-Lecture*, 5, 22-26.
- Hansen, J. (1987). Organizing student learning. Teachers teach what and how. In J. Squire (Ed.), *The dynamics of language learning* (pp. 321-335). Urbana, IL: NCTE.
- Hennings, D.T. (1975). *Mastering classroom communication: What interaction analysis tells the teacher*. Pacific Palisades, CA: Goodyear.
- Inner London Education Authority. (1984). *Improving secondary schools*. Report of the Committee on the Curriculum and Organization of Secondary Schools. London: ILEA.
- Jones, M. (1988). *Lipservice: The story of talk in schools*. Philadelphia, PA: Open University Press.

- King, A. (1989). Verbal interaction and problem solving within computer-assisted cooperative learning groups. *Journal of Educational Computing Research*, 5(1), 1-15.
- Langer, S. (1960). *Philosophy in a new key* (3rd ed.). Cambridge, MA: Harvard University Press.
- Lindfors, J. (1987). *Children's language and learning* (2nd ed.). Englewood Cliffs, NJ: Prentice-Hall.
- Logan, T. (1986). Cooperative learning: A view from the inside. *The Social Studies*, 77(3), 123-126.
- McDonald, F., & Elias, P. (1976). *The effects of pupil performance on pupil learning. Final report. Beginning teacher evaluation study, Phase II, 1974-1976*. Princeton, NJ: Educational Testing Service.
- Phillips, T. (1988). Why successful small-group talk depends upon not keeping to the point. In M. Maclure, T. Phillips, & A. Wilkinson (Eds.), *Oracy matters* (pp. 69-81). Philadelphia, PA: Open University Press.
- Pigford, A.B. (1988). Teachers let students talk. *Academic Therapy*, 24(2), 193-197.
- Platt, N. (1984). How one classroom gives access to meaning. *Theory Into Practice*, 23, 239-245.
- Province of British Columbia Ministry of Education, Student Assessment Branch. (1988). *Oral communication in the primary grades: Teachers' resource package*. Victoria, BC: Author.
- Province of British Columbia Ministry of Education, Program Development. (1989). *Primary program*. Victoria, BC: Author.
- Rosenshine, B. (1976). Recent research on teaching behaviors and student achievement. *Journal of Teacher Education*, 27(1), 61-64.
- Sharan, S., & Shachar, H. (1988). *Language and learning in the cooperative classroom: Recent research in psychology*. New York: Springer Verlag.
- Slavin, R. (1983). *Cooperative learning*. New York: Longman.
- Soar, R. (1977). An integration of findings from four studies of teacher effectiveness. In G. Borich (Ed.), *The appraisal of teaching: Concepts and processes*. Reading, MA: Addison-Wesley.
- Soar, R., & Soar, R. (1972). An empirical analysis of selected follow-through programs: An example of a process approach to evaluation. *National Society for the Study of Education Yearbook*, 71(2), 229-259.
- Solomon, D., & Kendall, A. (1979). *Children in classrooms: An investigation of person-environment interaction*. New York: Praeger.
- Staab, C. (1990). Talk in whole language classrooms. In V. Froese (Ed.), *Whole-language: Practice and theory* (pp. 15-47). Scarborough, ON: Prentice-Hall.
- Stallings, J., Cory, R., Fairweather, J., & Needels, M. (1977). *Early childhood education classroom evaluation*. Menlo Park, CA: SRI International.
- Stallings, J., Cory, R., Fairweather, J., & Needels, M. (1978). *A study of basic skills taught in secondary schools*. Menlo Park, CA: SRI International.
- Stallings, J., & Kaskowitz, D. (1974). *Follow-through classroom observation evaluation 1972-1973* (SRI project URU-7370). Stanford, CA: Stanford Research Institute.
- Stallings, J., Needels, M., & Stayrook, N. (1979). *The teaching of basic reading in secondary schools, Phase II and Phase III*. Menlo Park, CA: SRI International.
- Stewig, J.W. (1988). Oral language: A place in the curriculum. *Clearing House*, 62(4), 171-174.
- Strickland, D., Dillon, R., Funkhouser, L., Glick, M., & Rogers, C. (1989). Research currents: Classroom dialogue during literature response groups. *Language Arts*, 66(2), 192-201.
- Tikunoff, W., Berliner, D., & Rist, R. (1975). *An ethnographic study of the forty classrooms of the beginning teacher evaluation study known sample* (Technical Report No. 75-10-05). San Francisco, CA: Far West Laboratory for Educational Research and Development.
- Trudge, J., & Caruso, D. (1988). Cooperative problem solving in the classroom: Enhancing young children's cognitive development. *Young Children*, 44, 46-52.
- Vygotsky, L.S. (1962). *Thought and language*. Cambridge, MA: MIT.
- Wasserman, S. (1989). Children working in groups? It doesn't work! *Childhood Education*, 65(4), 201-205.
- Webb, N., Ender, P., & Lewis, S. (1986). Problem-solving strategies and group processes in small groups learning computer programming. *American Educational Research Journal*, 23(2), 243-261.

Webb, N., & Kenderski, C. (1984). Student interaction and learning in small-group and whole-class settings. In P. Peterson, L. Wilkinson, & M. Hallinan (Eds.), *The social context of instruction: Group organization and group processes* (pp. 153-170). New York: Academic Press.

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Students' Knowledge of the Charter of Rights and Freedoms and Their Agreement With Its Provisions

The notion of entrenching a charter of rights in Canada's Constitution was among the most hotly contested issues both prior to and after patriation. Those concerned with legal education and human rights could foresee that people's knowledge of their rights and their willingness to accord rights to other citizens might be affected by the inclusion of the Charter of Rights and Freedoms in the Constitution. This study was undertaken in order to determine students' knowledge of the Charter and the extent of their support for its provisions. A 27-item questionnaire was developed and administered to 3,161 students. These secondary students knew slightly more than 60% of the items. Knowledge and support were positively correlated ($r=.60$, $p<.001$). Null findings are reported for parental social status, country of birth, first language, and ethnic identity. However, grade level, parental educational level, and source of information about the law were significantly related to knowledge and support. The results have educational implications, particularly for those interested in law-related education.

In a free and democratic society, it is important that citizens know exactly what their rights and freedoms are, and where to turn for help and advice in the event that those freedoms are denied or rights infringed upon. In a country like Canada—vast and diverse, with 11 governments, two official languages and a variety of ethnic origins—the only way to provide equal

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protection to everyone is to enshrine those basic rights and freedoms in the Constitution. Jean Chretien, Minister of Justice, 1982 (*Charter of Rights and Freedoms: A Guide for Canadians*, 1984, p. v)

In a democracy, a nation's constitution provides the basic framework for the legal system by defining the rights and obligations obtaining among the nation's people and between them and their government. Fundamental changes in a nation's constitution are typically accompanied by equally momentous changes in those relations. Thus, with the patriation of the Constitution in 1982, Canada embarked upon a new course in its legal and constitutional history.

The notion of entrenching a charter of rights in Canada's Constitution was among the most hotly contested issues both prior to and after patriation. Those concerned with legal education and human rights could foresee that people's knowledge of their rights and their willingness to accord rights to other citizens might be affected by the inclusion of the Charter of Rights and Freedoms in the Constitution. For that reason, the Law-Related Education Group at the University of British Columbia made application to the Social Sciences and Humanities Research Council of Canada to undertake a study that would provide foundational knowledge about people's knowledge of rights protected by the Charter of Rights and Freedoms and of their willingness to see these rights accorded to others.

Related Literature

Because the promulgation of the Charter of Rights and Freedoms is a somewhat recent event in Canadian history, the number of studies similar to the British Columbia Charter Survey is limited. We are aware of one other large scale survey that addresses this topic; however, differences in method limit comparisons of our respective findings. The Charter Project, undertaken by Sniderman, Fletcher, Russell, and Tetlock (1989), addresses the state of opinion in Canada, regarding the rights bestowed on its citizens by the Charter of Rights and Freedoms. Telephone interviews were conducted with a sample of 2,084 adults and a purposive sample of "political elites." The latter group has three components: 513 federal and provincial legislators, 260 officials in the federal Ministry of the Solicitor General, and a sample of 352 senior lawyers. In addition to the interviews, self-administered questionnaires were returned by 1,250 adults and 936 of the political elites. Their first report from this large data base focuses on the development of a "political theory of language rights" (Sniderman et al., 1989, p. 282).

Although they found "overwhelming support" for the principle of bilingualism by anglophones and francophones, the authors conclude that respondent attitudes toward language rights are shaped by a complex interplay of values and group identification. Their analysis identifies egalitarianism, rather than civil liberties, as a source of support for language rights. There is, nevertheless, a body of literature concerning the attitudes that Canadian students hold toward particular rights and freedoms. Kirkwood and Nediger (n.d.) surveyed Canadian students in grades 7 and 10 to determine their "level of general knowledge and attitudes toward Canada." Of the 100 items in their scale, six in their Special Issues Subscale were very similar to various

sections of the Charter. Their sample consisted of 10,821 students drawn from a random selection of a 1982 listing of public school boards representing all 10 provinces and the two territories.

Scores on the six items that are roughly equivalent to Charter provisions indicated that both grade 7 and 10 students were very supportive of the idea that Canadians should be able to live or work in any province; that Canadians should have the right to free speech; and that men and women should be paid equal wages for equal work. Seventy-one percent of grade seven pupils supported the right of Canadians to criticize government policies while 87% of those in grade 10 were supportive. Seventy-five percent and 73% respectively were supportive of French-speaking Canadians in all provinces having the right to education in French. Support was lower (69% and 64% respectively) to allow immigrants to keep their own culture and traditions.

English and French language rights have received rather more research attention than other Charter rights. The degree of support for bilingualism has been of substantial interest since before the adoption of the Official Languages Act in 1969. Johnstone (1969), in his 1965 national study of young people for the Royal Commission on Bilingualism and Biculturalism, found that Anglophones were "only moderately tolerant in their attitudes regarding bilingual goals for Canada." Predictably, the views of Francophone youth were more positive. Johnstone states, "Although they (Anglophones) were almost as ready as the Francophones to support bilingualism for Canada as an ideal, they were less likely to endorse positions which implied personal or social change"(p. xvi).

Bibby and Posterski (1985) conducted a national survey of 3,600 teenagers aged 15 to 19 years. Although much of the data from their 1984 Project Teen Canada survey are not relevant to present concerns, their data regarding bilingualism are relevant. They report that in every region of the country Canadian teens are more accepting of bilingualism than Canadian adults. Nationally, 71% of teens are in favor of the policy that Canada should have English and French as its two official languages, compared with 55% of adults surveyed in 1980-1981 and 49% surveyed in 1975. The lowest level of support among teens is in British Columbia (57%); among adults it is 44%, second lowest only to respondents from the prairie provinces.

Purposes of the Study

The above mentioned studies are a subset of a larger body of literature about the values that Canadians hold. And though they sometimes address issues pertinent to the Charter of Rights and Freedoms, they are generally focused on other issues and suffer from methodological shortcomings that limit their applicability and utility in addressing the questions that animated our investigation. The specific purpose of the British Columbia Charter Survey was to ascertain what British Columbia secondary students know about the legal rights included in the Charter of Rights and Freedoms and their attitudes toward those rights.

Method

This exploratory, descriptive study used a group administered questionnaire as the data collection instrument. The questionnaires were given to intact

classrooms by members of the research team. This procedure was followed to standardize the administration of the survey instruments.

Sample

A multistage cluster sample of 3,161 students was drawn by classifying all the communities in the province with secondary schools into six categories. Statistics Canada classifications for community size were used: 1,000-2,499; 2,500-4,999; 5,000-9,999; 10,000-29,999; 30,000-99,999; 100,000 and over. Two communities were then randomly selected from each category. In those communities with more than one secondary school, the schools were also randomly drawn. There were two exceptions to this practice. In those two situations we were required to use schools where we could gain cooperation from school administrators rather than use the two schools we had randomly chosen. All social studies classrooms from grade 8 to 11 were included in the survey. Due to a conflict between the timing of our data collection and provincial examinations, we excluded grade 12 classes from our sample. However, our sample does include 139 grade 12 students who were present when we administered the survey to what we had believed to be grade 11 classes.

Table 1 shows the relation between our sample of secondary school students and the population of secondary school students in British Columbia. Based on the relationship between the size of the student sample and the population from which it was drawn, the findings reported in this article should fall in plus or minus 1.6% 95 out of 100 times.

Instrumentation

The instrument developed for use in the survey was the result of extensive development and repeated pilot testing. Our pilot tests confirmed that the legal language of the Charter made it difficult to phrase a question for each of the rights guaranteed by the Charter. We eliminated a number of items that proved to be misleading or confusing or both. The final version contained 27 vignettes representing selected rights granted by the Charter.

We do not have reliability data for the instrument, but we do have validity data. Two lawyers with expertise in constitutional law were asked to evaluate the instrument for content validity. They agreed that the instrument was a faithful representation of the content of the Charter of Rights and Freedoms. An instrument is considered to have concurrent validity if it differentiates between groups already considered different. We believe the questionnaire has concurrent validity. A sample of law students had significantly higher scores than a comparison group of university students. Both of these groups had significantly higher scores than a sample of students in grade 12.

Knowledge of and attitudes toward provisions of the Charter were ascertained using a format that involved the presentation of a vignette organized around one right or freedom. The following is illustrative of the presentation of the vignettes:

A man went to the personnel department of a major bank and asked to apply for a particular position for which he was trained. He was told that he could

not apply for the position as he was not smart enough to take the next step and get a promotion.

After each vignette, respondents were asked a question to ascertain whether they knew the right in question. Thus, for this vignette, respondents were asked “Does the man have the legal right to be considered for the position?” and were given the opportunity to answer “yes,” “no,” or “don’t know.” To ascertain the respondents’ attitude toward according the right to others, they were presented with an assertion designed to elicit their agreement or disagreement with the right. Thus, for the above vignette, respondents were presented with the assertion “The man should have the legal right to be considered for the position.” This was followed by a five-point Likert scale with which they could indicate their agreement or disagreement with the assertion. This five-point scale was reduced to a three-point scale in the analysis. Responses were collapsed into “agree,” “disagree,” and “undecided.” The students were asked to respond to 27 vignettes of this type presented in a paper and pencil format. The 27 vignettes are in the appendix.

Respondents were asked several background questions as part of the survey. Questions were asked to ascertain respondents’ age, gender, grade level, first language spoken, language most frequently used at home, parental occupation, parental educational attainment, community size, and where they obtained most of their information about the law. Students also were asked their cultural background. The relevant question read: “Every person comes from a different kind of background in terms of family origin, culture, nationality and beliefs. In addition, each person may have their own sense of who they are. Please answer the following question to indicate what you feel is your own cultural background in terms of the cultural group to which you belong.” Respondents were provided with examples such as English Canadian, Native Canadian, Japanese Canadian, and German Canadian and then were asked to indicate the cultural group to which they see themselves as belonging.

We wished to explore how these variables might explain variation in knowledge and attitudes. Such analyses might help us understand how underlying social processes are related to the outcome variables. If significant

Table 1
Grade Distribution of Sample and Population

Grade Level	Population		Sample	
	N	%	N	%
8	36,937	19.7	433	13.7
9	37,480	20.1	786	24.9
10	38,571	20.9	753	23.8
11	38,494	20.6	1,050	33.2
12	34,913	18.7	139	4.4
Totals	186,395	100.0	3,161	100.0

variations between social groupings were found, then the results could be of value in the development of target strategies to increase knowledge about the Charter.

In what follows we report how these background factors relate to how the students view the Charter of Rights. We also describe six clusters of rights and the degree to which they are known and supported.

Results

Table 2 contains a summary of the student responses organized into clusters of rights. As indicated in Table 2, students obtained a "correct" knowledge score of 61.9, which is the mean of the number of right answers calculated as a percentage of the total. They are most knowledgeable about their language rights and equality rights and least knowledgeable about their democratic and legal rights. The students' agreement with the rights roughly parallels their responses to the knowledge items. They are in greatest agreement with language rights and mobility rights and in least agreement with legal and democratic rights.

Gender

To determine if gender differences in patterns of socialization and education were likely to affect their knowledge and attitudes, respondents were asked to indicate whether they were male or female. Male secondary students are more likely to know the provisions of the Charter than are females. Their respective group means are 63.4 and 60.6. Although the males know the Charter better than females, the latter are more likely to agree with its provisions. Females have a mean agreement score of 62.4, which is significantly higher than the 61.4 agreement score for the males.

Age

Age has a significant impact on the extent to which students know the Charter and are in support of its provisions. Increases in age are associated with higher mean scores through age 18. Students 17 and 18 years of age have the highest scores (65.0), and the youngest age group, 12 through 14 years of age, have the lowest scores (56.1). Older students, 19 through 21 years of age, break the age-related trend with a decline to 59.8. This group is much smaller in size than the other age groups, with a group size of 64.

An increase in support for the Charter is also associated with increases in age. Students between the ages of 12 and 14 show the least agreement with the Charter as revealed by their mean score of 58.3. Each of the remaining age categories shows significantly higher levels of agreement with the Charter when contrasted with this youngest age group. Students who are 17 and 18 years of age indicate the greatest support for the Charter with respective scores of 63.8 and 63.7.

Grade Level

Grade level has a substantive impact on the levels of knowledge and agreement on the part of respondents as seen in Table 3. The grade 8 students are the least knowledgeable group and the grade 12 students are the most knowledgeable. Each succeeding grade has a mean knowledge score that is

Table 2
Percentage of Correct Responses and Percentage of Agreement
with Charter Provisions by Clusters of Rights

	Mean % Correct	Rank	Mean % Agree	Rank
Mobility Rights	62.8	4	68.4	2
Language Rights	74.8	1	73.6	1
Democratic Rights	52.7	6	55.5	6
Fundamental Freedoms	66.9	3	60.2	4
Legal Rights	57.2	5	57.9	5
Equality Rights	67.5	2	64.5	3
Overall	61.9		62.0	
sd	15.3		13.2	

Item numbers seen in the appendix that correspond to each cluster of rights are as follows: democratic rights are items #7, #9, #15; equality rights are items #10, #11, #18, #23; fundamental freedoms are items #4, #8, #13, #17, #20; language rights are items #3 and #21 (Official Language Rights) and items #14 and #22 (Minority Language Educational Rights); legal rights are #1, #2, #5, #6, #16, #19, #25, #26, #27; and mobility rights are items #12 and #24.

significantly higher than that of the previous grade. The relationship between grade level and support for the Charter has a similar distribution to that of the knowledge scores.

Given the close association between age and grade, we wanted to know if grade had a separate effect from that of age. A significant ($F < .05$) interaction between grade and age does occur for both outcome measures. Inspection of the matrix of mean values for the two outcome variables revealed a consistent pattern; scores increased with grade level when age was held constant. The results confirmed that schools do have an educational impact on student knowledge of the Charter. Schools appear to have a liberalizing function as well.

Country of Birth, First Language, and Ethnicity

The Charter of Rights and Freedoms defines the rights and obligations among the nation's people and between them and their government. Knowledge of one's rights and duties empowers individuals, and such knowledge aids in the process of cultural integration for newcomers to Canada. Over the last 15 years, British Columbia has experienced an increase in the number of Asian, Sikh, and Latin American immigrants. We wanted to find out if individuals with different backgrounds varied in their knowledge of their rights and freedoms and in their agreement with the provisions of the Charter.

More than 90% of the respondents were born in Canada, with slightly fewer than 10% coming from other countries. Students who were Canadian-born have a lower knowledge score, 61.8, than those not born in Canada who have a score of 63.0. A similar difference of 1.1 percentage points separates

Table 3
Grade Level, Charter Knowledge, and Agreement with the Charter

Grade Level	n	% Correct	% Agree
Grade 8	421	56.7	58.5
Grade 9	770	58.9	59.5
Grade 10	764	62.8	62.9
Grade 11	1,043	64.6	63.5
Grade 12	145	68.3	68.4

the support scores for the two groups. Students born in Canada have a mean score of 61.8, which indicates a lower level of agreement with the Charter than the mean of 62.9 for students not born in Canada. None of the differences is statistically significant.

Respondents were asked to indicate the first language they had learned and the languages they most frequently used at home. Whether or not one speaks English as a native tongue is of little consequence in terms of the extent to which students know about or agree with the Charter. The total number of students who learned to speak a language other than English as a first language is slightly less than 10%. The mean knowledge score for anglophones is 62.0, which is almost identical to the 62.2 score for non-native speakers of English. The respective agreement scores for the two groups are 61.9 and 62.7. Again, the differences are not statistically significant.

A person's first or most frequently used language may not be an accurate indication of his or her cultural background. For this reason, we asked the students their socioethnic identification. Approximately 65% of the students identify themselves as being English-Canadian. This group has a mean score of 62.1, while those who identify themselves as members of other groups have a mean score of 62.6, a difference of 0.5. There is a similar difference between the two groups in terms of their extent of support for the Charter. Individuals who do not label themselves as English-Canadians report a mean score of 62.7, which is slightly higher than the score of 62.1 for English-Canadians. The differences between the means are not statistically significant.

Sources of Information About the Law

Students were asked to indicate where they obtained their information about the law. Those who cited television as their primary source are the least knowledgeable about the Charter, with a mean score of 59.5%. At the other end of the continuum are students who report school courses as their principal source of law information. Their average percent correct is 66.5. Differences among the mean scores between each of the categories were statistically significant.

Support for provisions in the Charter echoes the pattern revealed by the knowledge scores. Students who are least in agreement with the Charter's provisions report television as their primary source of information about the law and those most in favor of these provisions identify school courses as

their source. The respective means are 60.1 and 65.0. Each category mean is significantly higher than that reported for the television category.

Parental Educational Level

The data in Table 5 indicate that offspring of reasonably well educated parents have the highest scores on both outcome measures. With two exceptions, the magnitude of the difference between scores associated with mother and father is 0.3% or less. It is interesting to note there is little difference between the scores of students with parents who have some postsecondary education and those parents who have at least a university degree.

The results suggest that meaningful parental education distinctions with regard to student knowledge of the Charter occur at two points. These are: (a) between nongraduates of high school and graduates, and (b) between high school graduates and those with education beyond the secondary level. When one considers the column of figures under agreement with the Charter, one cutoff point emerges. That division takes place between high school graduates and those who are educated beyond secondary education.

Parental Social Status

Parental social status was measured by classifying each parent's occupation according to the socioeconomic scale developed by Blishen and McRoberts (1976). These scores were collapsed into six categories with Class I having the lowest ranking and Class VI having the highest ranking. Three fathers were listed as homemakers. Almost one third (909 or 32.2%) of the pupils who answered this question listed their mothers as homemakers.

Respondents who listed their mothers as homemakers report a knowledge score of 62.0 and an agreement score of 61.5. These scores are higher than the corresponding scores for the lowest social status category, which are 61.0 and 61.4, but are below the values of the other five categories. Their knowledge values range from a low of 62.6 for Class II to a high of 63.3 for Class IV and Class V. The agreement with the Charter scores range from a low of 62.5 for Class II to a high of 63.7 for Class IV and Class VI. Although the highest group means are significantly different from the lowest group means, there is no main effect for mother's social status on either dependent variable.

Table 4
Law Information Sources, Charter Knowledge, and Agreement
with the Charter

Source of Information	n	% Correct	% Agree
Television	818	59.5	60.1
Friends/Family	1,351	61.6	62.0
Newspapers/Magazines	389	64.4	63.4
School Courses	417	66.5	65.0

Table 5
Parental Educational Level, Charter Knowledge, and Agreement
with the Charter

Level of Education ¹	n	% Correct	% Agree
Some High School			
Mother	820	61.0	61.1
Father	1,035	60.8	61.4
High School Graduate			
Mother	982	61.7	61.4
Father	811	62.0	61.5
Some Post-Secondary			
Mother	749	63.5	63.6
Father	674	63.6	62.8
University Degree or more			
Mother	405	63.6	63.7
Father	444	63.0	63.6

¹The educational level for each parent was statistically significant for each outcome variable ($F < .01$).

Father's social status follows the same pattern: no main effect, but statistical significance is obtained between the highest and the lowest group means. Students whose fathers' occupations are ranked in the top category, Class VI, have the highest knowledge score (63.7). This score is significantly different from Class II, which is 61.3. Classes I, III, and IV have almost identical scores of 61.8, 61.7, and 61.9 respectively. Similar results are found with the agreement scores. Pupils with a father whose occupation places them in Class VI have an agreement score of 64.0. This value is significantly higher than the scores of 61.4 that are associated with students whose father's occupation is ranked in Class I or Class II.

Other Relationships

The correlation between knowledge and attitudes was calculated. The positive correlation ($r = .595$ $p \leq .001$) was strong and significant, indicating that knowledge of rights and willingness to accord rights to others are associated.

Summary Profiles

A summary of the findings is presented as a series of profiles. These profiles are based on comparisons between the overall sample and the distributions of individuals whose scores are approximately one standard deviation above or below the mean of the two dependent variables. These are general descriptions and are not meant to be considered as exclusive categories. There are exceptions to each of the profiles. There are four profiles: the individual student most likely to know the provisions contained in the Charter, the student least likely to know those provisions, the individual most likely to

agree or support the Charter provisions, and the individual least likely to agree or support the rights enshrined in the Charter of Rights and Freedoms.

The student who is most likely to know the provisions of the Charter is male, aged 17 or 18, presently in grade 10, 11, or 12, and obtains most of his information about the law from school courses. The parents of this individual have attained an educational level beyond that of high school graduate. This individual is likely to have a mean knowledge score of 75% or above.

The student least likely to know the provisions of the Charter is female, presently in grade 8 or 9, and reports that her primary source of information about the law is television. The parents of this individual have either some secondary school education or have graduated from secondary school. This individual is likely to have a knowledge score of 50% or below.

The individual most likely to be supportive of the provisions in the Charter is 16, 17, or 18 years of age, presently in grades 10 through 12, whose primary source of information about the law is school courses. This student may be either male or female. His or her parents have continued their education beyond that of secondary school graduate. This individual is likely to have an agreement score of 75% or above.

At the other extreme of the support continuum we have those respondents who are least supportive of the Charter of Rights and Freedoms. The typical respondent is male, aged 12 through 14, presently in grades 8 or 9, and states that television is his primary source of information about the law. The parents of this individual either graduated from secondary school or obtained some education at the secondary school level. This individual is likely to have an agreement score of 50% or below.

People acquire knowledge of their rights and develop attitudes toward those rights and toward the extension of those rights to others simply as a consequence of the process of growing up in a particular society. It is nevertheless the case that the patterns of socialization differ among individuals and between groups. We have examined our data in an attempt to understand how people's knowledge and attitudes are affected by their differential exposure to different sources of information about rights.

Our results are compatible with a belief in Canadian society as an egalitarian society. Our data indicate that country of birth, first language, ethnicity, and parental social status are not significantly related to either knowledge of the Charter or agreement with its provisions. Although we risk going beyond our data, the significant and positive impact of education on both dependent variables suggests that formal education plays an instrumental role in these null findings. Parental educational attainment, student educational attainment, and school courses as a source of law information explained significant variations in both dependent variables.

The existence of protected rights and freedoms is insufficient to their guarantee. The exercise of one's rights and freedoms is dependent on knowledge of them. Our student sample "knows" slightly more than 60% of the items we have used to measure Charter knowledge. Judgments about the adequacy of this knowledge are arbitrary. We have no basis for comparison, although our study does provide a baseline for future contrasts.

In light of the Meech Lake Accord, it is worth noting that our sample of students knew the items associated with language rights significantly better than any other cluster of rights. Their support for these rights paralleled their level of knowledge.

Comparisons between clusters of rights is mitigated by the number of items in each cluster and their relative degree of difficulty. That said, the mean scores for legal and democratic rights are significantly lower than the corresponding scores for the other clusters. This information should be of value to those concerned with planning educational experiences and design of curriculum materials.

Ignorance of one's rights increases the likelihood that those rights will be infringed on. A person ignorant of rights is also more likely to infringe on the rights of others. Knowledge, as we have already shown, is associated with willingness to accord rights to others. Legal systems cannot function well without consensus and support. Respect for the rule of law and the rights of others is necessary to the administration of justice, and knowledge is a prerequisite to respect.

Implications for Education

Full citizenship implies knowledge and consideration of the legal principles that ought to guide action, an understanding of one's intentions, and the consequences that would result from pursuing a particular course of action. Study of a nation's constitution is fundamental to the assumption of full citizenship. In other words, citizenship involves the obligation to be aware of and observe one's legal obligations. One consequence of failing to educate people about their rights and freedoms is a reduction in their autonomy. People cannot take a full and active part in the affairs of their communities if they lack knowledge of the duties and obligations of citizenship.

We believe that education should include the development of understanding of the basic rights to which all people are entitled. Such understanding would necessarily include at least learning that there are different kinds of rights, that rights protect people by establishing what other people must, may, or may not do, and that rights are essential to an open society. One way of expressing the notion is that all rights impose duties on people to do certain things or the obligation not to interfere with the actions of others. Students may understand the impact that rights have by considering such duties and obligations. The Charter offers a marvelous opportunity for such education.

References

- Bibby, R.W., & Posterski, D.C. (1985). *The emerging generation: An inside look at Canada's teenagers*. Toronto, ON: Irwin.
- Blishen, B.R., & McRoberts, H.H. (1976). A revised socioeconomic index of occupations in Canada. *Canadian Review of Sociology and Anthropology*, 13, 71-79.
- Charter of rights and freedoms: A guide for Canadians*. (1984). Ottawa: Minister of Supply and Services.
- Johnstone, J.C. (1969). Young people's images of Canadian society. *Studies of the Royal Commission on Bilingualism and Biculturalism*. Ottawa: Queen's Printer.
- Kirkwood, K.J., & Nediger, W.G. (n.d.). *A survey of elementary and secondary pupils: Their knowledge and attitudes regarding Canada*. London, ON: Faculty of Education, University of Western Ontario.

Sniderman, P.M., Fletcher, J.F., Russell, P.H., & Tetlock, P.E. (1989) Political culture and the problem of double standards. *Canadian Journal of Political Science*, 22, 259-284.

Appendix

Knowledge Items: Charter of Rights Survey

1. In a small town a man is charged with three armed robberies. He demands a trial by jury. The community argues that it would be a waste of time and taxpayers' money to hold a jury trial.
Does the man have a legal right to a trial by jury? (Yes)
2. The police arrived at Mr. J's apartment with a warrant to search for stolen cameras. After a brief search, they found a number of cameras in a kitchen cupboard. He was charged with possession of stolen goods and taken to the police station. At the station he was strip searched.
Do the police have a legal right to strip search Mr. J? (No)
3. André and Marie live in Trois Rivières, Quebec. They are driving across Canada and are now in Manitoba. They need information about the weather, but do not understand English. They call Environment Canada in Winnipeg, expecting to receive information in French.
Do André and Marie have a legal right to receive information in French? (Yes)
4. A group of people wants very much to stop Canadian companies from building parts which will be used in nuclear missiles. Every year they demonstrate in the public park beside a factory which supplies parts for nuclear missiles. This year, the factory manager insisted that the group move away from the park.
Does the factory manager have a legal right to prevent the group from demonstrating in the park? (No)
5. A man was charged with assault. He was found not guilty at his trial. A short time later a witness came forward with additional evidence suggesting he was guilty.
Does the state have a legal right to bring the man to trial again? (No)
6. A police officer stopped a car driven by a woman and made a demand for a breath sample. The woman accompanied the police officer to the station but refused to take the test until she had the opportunity to call a lawyer.
Does the woman have a legal right to refuse to give the breath sample before having an opportunity to call a lawyer? (Yes)
7. The elected members of the governing party of a provincial legislature (parliament) all agreed to postpone the sitting of the legislature for two years. The opposition party members disagreed with the action. They said that the governing party could not postpone the legislature for that long.
Do elected governing party members have the legal right to postpone the sitting of the legislature for two years? (No)
8. A group of people wants to publish a newspaper. The group want to publish material arguing that people should not be allowed to vote unless they have high intelligence.
Does the group have a legal right to publish such a newspaper? (Yes)
9. Mr. K. recently received his Canadian citizenship. The day after he received his Canadian citizenship it was announced that there would be an election in thirty days. Mr. K. decided he wanted to run for a seat in Parliament as an independent citizen.

Does Mr. K. have a legal right to run for Parliament? (Yes)

10. A religious group wishes to build a temple in a small town. They are willing to locate it at any number of places and there are no by-laws which prevent it. Many of the townspeople do not wish to have a temple belonging to this particular group in their town.

Do the townspeople have a legal right to stop the religious group from building a temple? (No)

11. The RCMP established a policy to increase the number of Native Indians in the force. One-quarter of the trainees they accepted were to be natives. Several Caucasians (white people) who met the qualifications did not get in because of this policy. They claimed to have been discriminated against.

Does the RCMP have a legal right to institute this policy? (Yes)

12. A Hungarian woman immigrated to Canada in 1956 and obtained Canadian citizenship in 1981. She went back to Hungary in 1983 and stayed for fifteen months.

Does the woman have a legal right to come back to Canada under the same conditions as someone born in Canada? (Yes)

13. A teacher in a small town wanted to join a political party. The principal said she could not join the party as teachers were supposed to be neutral about politics.

Does the principal have a legal right to stop teachers from joining a political party? (No)

14. Jean and Yvette Picard are Canadian citizens. They lived in Laval, Quebec and spoke only French until they moved to Vancouver. Their daughter, Giselle, was born in B.C. Jean and Yvette wish to send Giselle to a school where classes are taught in French.

Do the Picards have a legal right to send Giselle to a public school where classes are taught in French? (Yes)

15. Ms. W. has lived in Canada for twenty years without taking out Canadian citizenship. She has decided to run as a member of Parliament in her area.

Does Ms. W. have a legal right to run as a member of Parliament? (No)

16. Mr. S. was caught by two policemen while he was breaking into a hardware store. He was charged with breaking and entering. Mr. S. is deaf and wishes to have an interpreter at his trial.

Does Mr. S. have a legal right to an interpreter at his trial? (Yes)

17. A small group of parents wish to protest a school policy. They intend to hold a demonstration outside the school. People living near the school want to stop the group from demonstrating.

Do the parents have a legal right to hold the demonstration? (Yes)

18. A man went to the personnel office of a major bank and asked to apply for a particular position for which he was trained. He was told that he could not apply for the position because he was not smart enough to take the next step and get a promotion.

Does the man have a legal right to be considered for the position? (Yes)

19. A woman was charged with speeding on the Trans Canada highway. She said that she was not guilty and wanted to be tried by a jury.

Does the woman have a legal right to a trial by jury? (No)

20. An elementary school teacher decided that her class should say the Lord's Prayer every morning. The parents of two students refused to let their children participate. They said they wanted their children excused from the room when the Lord's Prayer was being said.

Do the parents have a legal right to have their children excused from the classroom when the Lord's Prayer is being said? (Yes)

21. Jeanne Belanger is from New Brunswick. She wants to find out about employment opportunities in Vancouver. Jeanne goes to a Canada Employment Centre. She speaks French and cannot understand or speak English. She expects to have her questions answered in French.

Does Jeanne Belanger have a legal right to have her questions answered in French? (Yes)

22. A school board introduced a new policy. The policy said that only children whose parents were educated in French in the school district may attend the French schools in the district. All other children must attend the English schools in the district.

Does the board have the legal right to establish this policy? (No)

23. A female kitchen helper was working in a restaurant in the Parliament buildings. Her boss expected her to do work that he did not expect the male workers to do. Male and female workers were paid the same and had the same job classification.

Does the female worker have the legal right to be treated the same as the male workers? (Yes)

24. Mr. B. has just moved to British Columbia from Ontario. He has applied for a job as a customs officer. A group of unemployed people march on government offices demanding that people from other provinces not be allowed to apply for jobs in B.C.

Does Mr. B. have a legal right to be considered for employment on an equal basis with British Columbians. (Yes)

25. Mr. M. was a guard at a provincial jail. He was charged with hit and run driving. He said he didn't do it, but the warden fired him.

Does the warden have a legal right to fire Mr. M? (No)

26. A police officer came to a young woman's apartment with an order for her to appear in court. The woman had 23 parking tickets which she had not paid. The woman answered the door and the officer handed her the order. Then he said he would like to search her apartment. The woman protested.

Does the woman have the legal right to refuse to allow the police to search her apartment? (Yes)

27. An RCMP officer drove up to a bus stop and beckoned to a man standing there. The man went over to the car. The officer asked him his name and address. After answering these questions, the man asked the officer why he wanted this information. The officer did not reply and asked the man to get into the car. The man said he would not get into the car unless the officer told him the reason.

Does the man have the legal right to refuse to get into the car? (Yes)

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Issues in Implementing Indicator Systems

An indicator system is a tool for reform and improvement. Existing accountability systems often present indicators in isolation. Negative impacts can be minimized if an indicator system is perceived as an integrated whole. Two examples of a new generation of promising integrated indicator systems are identified. Implementation issues can be categorized into educational and social, administrative and technical, and political and financial. Resolution of issues often involves compromise among competing perceptions and values. Implementation strategies that incorporate multiple goals, indicators, methods, levels of analysis, and participants are proposed.

This article presents a definition and description of educational indicator systems and outlines their uses, guiding principles, and criteria. It identifies two developmental projects that are examples of a new generation of indicator systems that promise to provide an explanatory framework for education. They are particularly relevant to the Canadian context because they explore local, provincial, national, and international perspectives on education. The paper subsequently addresses the major issues related to the implementation of indicator systems, based largely on the difficulties that have manifested themselves in the American context where indicators have been corrupted in attempts to produce short-term gains to satisfy annual accountability demands in an essentially long-term endeavor. It classifies the issues into three categories: educational and social, administrative and technical, and political and financial, and discusses their implications. Positive and negative effects are identified and strategies proposed for minimizing the negative impacts. The final section proposes strategies for resolving the issues.

Indicator Systems

The current educational reform movement has led to greater accountability and an increase in monitoring and evaluation of schools and systems. A critical component is information. In order to determine what type of information to collect, many organizations are developing and implementing

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indicator systems. Because education is a complex enterprise that cannot be described by means of any single component, an educational indicator system should address this complexity by simultaneously examining interrelated aspects of the enterprise rather than a number of discrete parts. Such a system should provide measures of various components as well as information about how they work together to produce changes in the condition of the system over time (Odden, 1990). The context, input, process, product (CIPP) model holds considerable promise for an indicator system. Stufflebeam and Webster (1988) described the objectives, methods, and relation to decision making in the change process of each of the four types of evaluation based on the CIPP model. Because educational institutions exist fundamentally to foster human growth and development, assessments of students' needs must take into account relevant developmental variables, and assessments of institutions must take into account the components and activities that bear on meeting the needs of their students.

Definition and Description

An indicator system is a tool for reform and improvement. Accountability is one aspect of this endeavor. The information provided by an indicator system must be meaningful for diverse groups because education is a shared responsibility among the provincial government, the family, school jurisdictions, schools, the academic community, and other institutions. Those making decisions about educational matters and those responsible for public funds must be held accountable for their decisions. Indicators can paint a broad picture of the conditions of education and stimulate thinking about potentially effective policies (Shavelson, 1988, p. 6). Although indicators cannot describe a system completely, they can inform planning, policy, and decision making (McEwen & Zatko, 1989, p. 7). The goals, or intended benefits, of implementing indicator systems are to improve education, to provide a mechanism for accountability, and to assess the efficiency and effectiveness of the educational enterprise. An educational indicator system should provide:

- information that is feasible to gather, valid, and useful for policy decisions;
- logical clusters of indicators to increase the system's interpretative power;
- points of reference such as a previous value, the value of a comparison group, or some socially determined standard;
- measures of the ubiquitous features of schooling that are enduring, easily understood, feasibly measured, and generally accepted as valid and reliable statistics; and
- a reporting system that is accurate and timely (Oakes, 1986; Selden, 1988).

An indicator system is not synonymous with a student testing or assessment program. Much of the criticism leveled against the existing American accountability systems is due to their use as programs of student assessment without regard for the consequences or effects that their introduction produces. An indicator system should be a much broader, more comprehensive undertaking that attempts to provide a more balanced picture of the operation and outcomes of schooling, particularly if the indicators focus on a

broader range of desired outcomes. By focusing on student learning, and interpreting the findings in terms of educational conditions, better decisions may result from the enhanced information (McEwen, 1990, p. 13). Student outcomes are but one, albeit vital, component in this larger picture of educational conditions. To examine student outcomes in isolation, without taking into account the context and operation (inputs and processes) of schooling, denigrates a large body of research on the relationships among achievement and other variables, and may perpetuate poor pedagogical policies and practices.

The existing American accountability indicator systems were precipitated by the release of *A Nation at Risk* and other reports in 1983 that identified a dearth of information about schools and schooling (Selden, 1988). According to Finn (1988), the reform movement in the United States arose from widespread anxiety that deteriorating educational performance was endangering the spirit, economic vitality, technological prowess, and perhaps even the national security of the United States, while eroding the ability of individuals to have a happy, rewarding, safe, and virtuous life (p. 116). The reform movement insisted on tangible evidence of results, most commonly in the form of rising scores on various tests and other indicators of cognitive learning. This resulted in a high degree of homogenization or standardization of education, with a commensurate narrowing of the range of choice given to students and the breadth of discretion given to teachers. According to the Office of Educational Research and Improvement (OERI, 1988), 46 states have accountability systems of which 35 are state systems, two are local, and nine are a mixture of both state and local systems (pp. 28-29). The major types of indicators reported are student achievement on standardized testing, attendance, and completion of school. While 45 states collect background data, only 21 reported using these data for interpreting performance indicators. Large-scale testing programs form the core of the state accountability systems and often drive the local response. Questions about the current status and use of standardized tests are being raised increasingly by researchers, the media, and the public. The most common criticisms include the inability of existing tests to measure the full range of achievement; the limited overlap between the substance of standardized tests and the skills and content stressed in textbooks; a general narrowing of the curriculum as a result of the tests; emphasis on basic skills; and the confusing messages transmitted to policy makers and the public as a result of the long intervals between revising norms (Brandt, 1989; Koretz, 1989; Meisels, 1989; OERI, 1988).

Promising Projects

A new generation of indicator systems is currently under development. These new systems have the potential to reduce the negative impact of the American accountability systems that focus almost exclusively on student outcomes and have resulted in negative consequences for students and educational institutions. Two examples illustrate a new and broader perspective on indicator systems that attempt to embed student outcomes in the context of the educational system provided through schooling. Their major focus is to improve education.

The Organization for Economic Cooperation and Development (OECD) has completed its 18-month exploratory phase and is currently in the developmental phase of the International Educational Indicators (INES) Project that will conclude December 1991 (OECD, 1989a). Originally INES was divided into five networks, each of which was the responsibility of a particular country. These were:

1. enrollment, career paths and school leavers (Australia);
2. education outcomes (United States);
3. the functioning of schools (France);
4. assessing costs and resources (Austria);
5. attitudes and expectations (Netherlands).

Canada participated in networks 1 and 2 that included 20 and 15 countries respectively. The next phase of INES will finalize the conceptual and analytical framework for the production of indicators and delineate an indicator system. This international project adopted a systematic scheme as a framework for the development and interpretation of indicator systems: environment, resources, processes, and effects (Nuttall, 1990). An understanding of the effects or outcomes of education must be informed by the educational processes employed and resources (fiscal and human) deployed, against the background of contextual factors in the environment of schools or of education systems. The INES project is important because of its international scope and broad intents. It is exploring the major conditions of education that need to be examined in concert with desired outcomes if true educational improvement is to occur.

The second example is Alberta's Educational Quality Indicators (EQI) initiative. This is a collaborative endeavor between Alberta Education and 12 school jurisdictions to develop indicator systems to measure the success of the educational enterprise in the province. This three-year initiative has three components:

1. indicator systems (meeting three criteria: an interpretative framework to describe variation among students and schools; student outcomes related to the educational enterprise; and points of reference for comparing results);
2. methods (to collect, analyze, and interpret the information); and
3. reporting and dissemination (to inform diverse audiences of the results).

A four-dimensional model of education was developed to guide this initiative. It consists of partners (schooling, family, society), conditions (context, inputs, processes), student outcomes (cognitive, affective, behavioral) and time (grades 3, 6, 9, 12) (McEwen & Zatko, 1989). Each participating school jurisdiction is currently developing and will implement a local indicator system that represents its educational goals and priorities and reflects the local community's expectations. The information generated from the 10 concurrent collaborative action research projects will assist Alberta Education to develop provincial indicators. The interpretation and recommended directions of the local indicator projects, together with other provincial initiatives, is expected to provide a solid foundation for the implementation of an efficient and effective information system that measures the success of the educational enterprise in the province (McEwen, 1990).

The OECD and EQI projects represent a new generation of indicator systems because they are based on models of education that attempt to describe the interrelationships among components and permit multiple comparisons. Both recommend multiple data sources and multiple methods of analysis. Indicator systems, whether local, provincial, national or international, are interdependent because they reflect the goals and priorities of their originators. Education is a social mechanism for promoting shared values and societal goals. The common goal is an educated citizenry to deal with the increasing complexity of life in an interdependent world. A shared priority is the development of the next generation as efficiently and effectively as possible given competing demands for limited resources. It is both a social and economic imperative that students be prepared to contribute to their society (community, province, country) because we all live in the global village.

Issues

The implementation of any indicator system raises many issues about education. Even an exemplary indicator system is not a panacea for improving schooling. Education is influenced by interacting political, social, economic, and cultural forces. Kanter (1989) discussed how the turbulent, fast-paced environment of global competition and constant innovation in technology and corporate structure has dramatically changed our lives. Public, private, and independent institutions are initiating a wide variety of collaborative, multiorganizational approaches to address complex issues and problems. Issues management alliances (Austrom & Lad, 1989), known as public-private partnerships, innovating organizations, community development corporations, and self-regulatory agencies are an attempt to respond to the turbulent sociopolitical environment. Issues management is the proactive process of identifying and shaping social issues and emergent trends likely to affect an organization, as well as deployment of the necessary resources toward their effective and timely resolution (p. 23). According to Luke (1986), interconnectedness and interdependence have emerged as the most salient characteristics of the contextual environment of contemporary society. In order to deal with issues, macrolevel analysis, a multisector perspective, longitudinal research, and multidisciplinary approaches are required (Austrom & Lad, 1989, p. 36).

Schooling is a powerful institution for developing the next generation, but its support depends on the perceived value of its utility and effectiveness. The next sections present the issues for each of the three major areas: educational and social, administrative and technical, and political and financial and discuss their implications. Both positive and negative effects are identified. In many cases issues result from opposing ideas of educational excellence, equity, effectiveness, and efficiency.

Educational and Social Issues

Many issues that reappear are value conflicts. When economic, social, and demographic changes create social turmoil, public opinion shifts (Cuban, 1990, p. 8). Differences, as they become transformed by the media and political coalitions into pressure on schools to change, are dilemmas that

require political negotiation and compromises among policy makers and interest groups. Cuban (1990) stated that people turn to schools in times of social turmoil because dominant social groups want public schools to work on national ills, rather than risking major dislocations in society, by directly addressing major social problems. People have a shared, enduring belief that schools promote social mobility, creating national harmony and building solid citizens.

Context and Values

Education does not exist in a vacuum. It is important to understand the context in which schooling takes place. Changes in the economic, social, and cultural aspects of society have an impact on children's social, emotional, and cognitive development. The issue becomes how schooling can accommodate differences in children's learning potential as a result of the constantly changing society. Cuban (1990) conceptualized the struggle over reform as a conflict over values. When conservative values were prevalent (in the '20s, '50s, and '80s), schools were concerned with producing individuals who could compete: hence high academic standards, orderliness, efficiency, and productivity were prized in schools. When liberal values dominated (in the early 1900s, '30s, and '60s), concerns for minorities, the poor, and outsiders prompted school reforms to broaden student access to programs, linked schools to work in the community, and reduced academic achievement gaps between groups of students. Each political turn of the cycle left a residue in schools when the rhythm shifted. Indicators need to describe these trends in the context because they are important for interpreting results.

Canadian society has changed enormously over the past 25 years (Health and Welfare Canada, 1989). These changes have placed tremendous pressure on families as they try to prepare their children for an increasingly complex and fast-paced society. The traditional two-parent family with the mother staying at home has been largely replaced by dual-income families that have steadily increased since the 1960s from 25% to over 60%. The number of one-parent families has increased significantly over the past 25 years. The ethnocultural structure of Canada is also changing due to shifts in immigration patterns. Immigration is far more diverse now than it was a quarter of a century ago in terms of the national, linguistic, religious, and racial backgrounds of immigrants (Health and Welfare Canada, 1989, p. 32). The shifting patterns have a direct and immediate effect on the educational system. The growing number of non-English/non-French-speaking school-aged children places pressures on the educational system for increased resources (staff, time, and money) for language training. The increasing multicultural aspect of Canadian society also demands that the educational system address these complexities.

Both home and school environments are important in the conceptualization of student learning. Walberg (1984) identified home environment as one of the causal factors in student learning. In his synthesis of over 3,000 studies of student learning, Walberg concluded that the "alterable curriculum of the home" is twice as predictive of academic learning as family socioeconomic status. This "curriculum" refers to "informed parent-child conversations about school and everyday events; encouragement and discussion of leisure

reading ... expressions of affection and interest in the child's academic and other progress as a person" (p. 25). Fraser, Walberg, Welch, and Hattie (1987), in identifying the salient facets of student learning, stated that "the pupil is part of a home, school, and classroom and is subject to the influences from peers, teachers, parents, and the media" (p. 193). In other words, the amount of learning any individual child can demonstrate is partially determined by contextual factors outside the control of the educational system. Although a child's previous achievement level remains one of the most important variables in determining student outcome, that level is influenced by the child's home environment.

In order to attribute schooling effects to learning, techniques to control for background influences are required. Nagy, Drost, and Banfield (1985), in an investigation of community isolation and its influence on educational achievement, used path analysis to control for economic and parental effects. They found a substantial contribution for some of the isolation variables in accounting for achievement differences. Although background variables are not readily amenable to manipulation by educators, they have a great impact on achievement effects and need to be examined.

Curriculum and Assessment

In their documentation of the Canadian component of the Second International Science Study, Connelly, Crocker and Kass (1985) described the diversity in education in Canada in policy, organization, styles of teaching, curricular emphases and development, language of instruction, and in rights to instructional services (p. 311). This diversity introduces problems when the implementation of national indicators is contemplated.

Although school jurisdictions, provincial governments, and the public place much emphasis (testing is usually funded) and credibility (schools are held accountable) on test scores, this is not translated into instructional practice because teachers see this type of testing as an unnecessary intrusion into the classroom. Probably the most visible and most common indicator of student outcome or performance has been some type of test score. Assessment and its impact on the curriculum, the learning process, and the educational system as a whole has been the focus of several recent special issues: *Educational Leadership* (April 1989); *Phi Delta Kappan* (May 1989); *Educational Researcher* (December 1989); and the *Alberta Journal of Educational Research* (March 1990). The impact of the use of standardized tests on the curriculum is related to the use of these test scores as accountability tools (e.g., Koretz, 1989; Neill & Medina, 1989; Wiggins, 1989). The pressure to raise test scores has resulted in a disruption of the learning process because the priority becomes raising short-term test scores for the class rather than ensuring that students learn. This can result in practices such as teaching to the test and a general narrowing of the curriculum, where the curricular content is dictated by the content of the test (Shepard, 1989). Although test developers attempt to use current curricula to guide test construction, the resultant test may not be responsive to changes in curricula over time and differential emphasis across different systems. McLean (1985), in his survey of student evaluation in Canada, found that district and provincial achievement testing is common, but that few uses of the results were found; teachers

evaluate students, but do not communicate results widely; employers are more concerned with attitudes and behavior than marks; and postsecondary institutions are concerned about the comparability of school marks in the absence of common examinations (p. 47). In questioning the need to examine outcomes, Nagy (1990) concluded that testing technology distorts the curriculum; political realities interfere with doing the job properly; and people want to see "hard" numbers rather than anecdotal reports, even though these hide the real data and threaten people. Moreover, evidence suggests that the intended, translated, and achieved curriculum are different (e.g., Connelly, Crocker, & Kass, 1989).

Hargreaves (1989) recommended the following strategies for reforming curriculum and assessment: decentralization of curriculum development; administrative support for a collaborative teacher culture; mandatory guidelines requiring a broad and balanced curriculum and reinforced through the power of inspection; and a revamped assessment system designed to provide teachers with improved feedback about their students and their progress as a basis for curricular renewal (p. 170).

Structure of Schooling

Schooling consists of many conditions that are alterable. Indicator systems need to incorporate these conditions because information derived from such input and process indicators can suggest possible intervention strategies for improving education. Tyler (1984) said that "education ... is a social enterprise seeking to help persons acquire understanding, skills, attitudes, interests and appreciation" (p. 29). The structure of schooling needs to be examined if educational improvement is to occur. Some of the models of education that contribute to our understanding of the relationships between student learning and development and the conditions of schooling follow.

Carroll (1963) described the degree of learning as a function of time spent (determined by opportunity to learn and perseverance) over time needed (determined by aptitude, ability to understand instruction, and the quality of instruction). Hymel (1988) expanded Carroll's model to include four additional theories: Bloom's mastery learning model; Edmonds'/Brookover's effective schools correlates; Spady's premises of outcome-based schooling; and Hunter's mastery teaching concepts. Since 1975 Walberg and his colleagues have been trying to develop a comprehensive framework for the analysis of productivity and to test it in a variety of classroom studies (Walberg, 1984, pp. 20-21). Nine factors require optimization to increase student (affective, behavioral, cognitive) learning: student aptitude (ability, development, motivation), instruction (quantity and quality), and environment (home, classroom, peer group, mass media). Oakes' (1986) comprehensive model of the educational system consists of inputs, processes, and outputs. Shavelson, McDonnell, Oakes, Carey, and Picus (1987) developed a framework for a possible indicator system that piggybacks onto ongoing data collection through the American National Assessment of Educational Progress. Their piggyback indicator system looks at inputs, processes, and student outcomes.

Coleman (1986) discussed the good school district in the context of three major descriptions of instructionally effective schools: Goodlad's *A Place Called School* (1984), Lightfoot's *The Good High School* (1983), and Rutter,

Maughan, Mortimore, Ouston, and Smith's *Fifteen Thousand Hours* (1979). Common features of the three studies included the focus on "culture" as opposed to resources; the consequent emphasis on "thick description"; and the holistic concern that syndromes, configurations, and patterns are important, rather than single variables such as class size. The good school has a dual focus: It pursues concurrently academic (focusing on learning, accountability, and change) and nurturance (focusing on caring, collegiality, and community) purposes (Coleman, 1986, p. 90). Coleman (1986) concluded his discussion by suggesting that good school districts have characteristic norms and practices, labeled ethos, which have classroom, school, and district level consequences. The linkage among these elements is coordination (p. 95).

Purkey and Smith (1983) found some commonalities in their review of effective schools: strong leadership by the principal and other staff; high expectations by staff for student achievement; a clear set of goals and an emphasis for the school; an effective schoolwide staff training program; and a system for monitoring student progress (p. 435). The authors proposed nine organization-structure variables as important: school-site management; instructional leadership; staff stability; curriculum articulation and organization; schoolwide staff development; parental involvement and support; schoolwide recognition of academic success; maximized learning time; and district support (pp. 443-445). They recommended longitudinal studies in a variety of schools that track school and student performance over time; a fuller investigation of the process by which schools increase, decrease or maintain effectiveness; identifying information about the procedures employed, the obstacles encountered, and the intended and unintended results obtained; and finally, identification of the intermediate steps of "goals specification and problem diagnosis" (pp. 447-448).

Oakes (1989) identified three global school conditions that act as enablers for high-quality teaching and learning: access to knowledge, press for achievement, and professional teaching conditions. Mediating factors include school resources, alterable organizational policies and structures, and school culture. Some alterable policies and structures are allocation of time (for instruction); curricular emphasis; grouping practices (tracking based on abilities); extra support for low achieving students; and amount and kind of parental involvement (especially at the elementary level). Aspects of school culture that are conducive to quality are commitment to student learning; primacy of teaching; collaborative staff planning/sharing and teamwork; and opportunities for program improvement and professional renewal. Global school conditions function synergistically—they act as enablers rather than as causes of quality teaching and learning.

The OECD international report on schools and quality (1989b) concluded that "student motivation and achievement are profoundly affected by the distinctive culture or ethos that is to be found in each school" (p. 141). The report identified ten characteristics that appear to play a role in determining school outcomes. Some are similar to those identified by Oakes (1989), such as collaborative planning; staff development; and parental involvement); others include the commitment to clearly and commonly identified norms and goals; leadership in initiating and maintaining improvement; staff

stability; maximum use of learning time and the active and substantial support of the responsible education authority (p. 140).

Impact on Students

The implementation of an indicator system should deal with the issue of individual differences in students, the most prominent of which is differences in ability levels. The use of tracking or streaming—students in different programs/courses based on prior achievement—has been the most common method of accommodating individual differences. Although tracking may be beneficial for some groups of students in the high tracks, it can be an ineffective and unfair way of dealing with individual differences because of its damaging effects on students in the low tracks (Oakes, 1987). Oakes identified some of the effects of tracking and examined some of the school and societal contexts for the continued use of tracking despite its negative impacts. She suggested that future research on whether tracking works should consider how, for whom, and toward what ends. In an Ontario study of the relevance of education and the issue of dropouts, Radwanski (1987) also recommended the elimination of streaming.

Nagy, Traub, and MacRury (1986) discussed in detail the impact of proposed province-wide testing in Ontario of selected high school courses. Some of the effects on students are test anxiety, fear of failure, increased number of students entering the general stream, and increased number of students dropping out of the system. The impacts on the teaching-learning processes are intrusion of the exams into the classroom; less emphasis on discovery oriented learning; and more emphasis on strategies to raise test scores. The impacts on institutional policies are the use of scores as accountability tools for schools; and use of scores as an admission criterion to postsecondary institutions.

Administrative and Technical Issues

Many administrative and technical issues are involved in implementing indicator systems. Included in this discussion are strategic considerations, resources, system design, reliability and validity, and data bases.

Strategic Considerations

Currently, different jurisdictions (local, provincial, national) collect a large volume of information (such as annual education statistics, census data, achievement and ability test results, surveys, and polls). The problem is that the information is collected, analyzed, and reported in different ways so that it is difficult to compare and integrate the information from the different sources.

When an indicator system is contemplated, four strategic questions dominate the discussion:

1. How can the information be collected and coordinated?
2. How can it be used effectively and efficiently?
3. Who is responsible for the management of the information?
4. Who is responsible for maintaining the currency of the information?

When information is collected by more than one level of government and/or school jurisdiction, there must be a way to aggregate and disaggregate

the information. Different levels of the educational system require information at different levels of specificity. Information collected at the individual or classroom level by the teacher likely needs to be aggregated to at least the school level to be useful to the district. Nagy (1990) distinguished between differing information needs at the local and provincial levels. What may be important to local authorities intent on improvement at the micro level, might not be the same as that considered by provincial authorities intent on improvement at the macro level. Summary data serving political and accountability purposes may not provide diagnostic information that the school can use for prescribing action. Bock and Mislevy (1988) recommended the duplex design as a way to accommodate differing information needs and to tailor information reports to the specific needs of different users such as students, schools, districts, government, and the media. McEwen and Zatko (1989) also described differing provincial and local information needs. Provincial governments are concerned with achieving a standard that is comparable to national and international counterparts. School jurisdictions are concerned with comparing and interpreting results for their own students in different schools as well as comparing their results with those of other jurisdictions of comparable size, location, and economic base. The two perspectives require some common indicators for provincial purposes and others for local or regional needs.

The implementation of an indicator system may mean developing a way to incorporate existing information or modifying collection procedures to provide integrated information. For example, Fetler (1989) used the California State Department of Education data base to investigate factors that contribute to the dropout rate. These included total enrollment, enrollment in academic courses, achievement scores, and index of poverty. The study illustrates the conceptualization of a model for predicting dropout rates utilizing existing data bases. The most difficult and crucial issues are the conceptualization of the problem and the selection of appropriate variables.

An important strategic consideration is coordination (Luke, 1986; McEwen, 1990; Zatko, 1990). People responsible for indicator systems need to have considerable technical expertise to appreciate the complexities of research design and implementation (such as appropriate methodologies, reliability, validity, etc). They also need highly developed administrative skills to deal with the management, coordination, and dissemination of information to appropriate audiences. Moreover, they need persuasive skills to negotiate the desires and expectations of various stakeholders (administrators, teachers, parents, the public, others) and to be able to communicate clearly and effectively with different groups (government, school personnel, research community, the public). People who possess a combination of all these skills are rare, yet they are essential to ensure that the indicator system can capitalize on the various levels of expertise provided by the different groups.

Resources

Implementing an indicator system requires the commitment of considerable resources: information, staff, money, and time. Kanter (1989) summarized the issue of resources by suggesting capitalizing on existing strengths and

tackling opportunities while living within constraints. The challenge of doing more with less is the ultimate balancing act (p. 372).

McDonnell and Elmore (1987) described three types of information to assist in shaping the choice of policy and/or indicators: political (what is preferred by other policy makers, organized interest groups, and constituents); strategic (information about the target, its capacity to implement, and its probable response to various policy instruments); and analytical (information about the technical requirements of various instruments and which ones are likely to work under different conditions). The last two types of information are particularly important for policy areas such as education, where control is fragmented among different actors and levels of government (p. 25). Oakes (1989) concurred with the importance of information about resources, policies, organizational structures, and processes that characterize schools. In recognition of the importance of informed discussion, both OECD and Alberta Education are providing technical documents to support their respective indicator projects. For example, the EQI initiative has produced an annotated bibliography, a methodological report, and an inventory of assessment instruments.

Staff commitment and expertise are also important ingredients for the successful implementation of an indicator system. Without shared expectations and the support of the community in the determination of the goals, priorities, and expectations for its students, a local school jurisdiction may not address the questions its constituents want answered. Lack of involvement in and development of commitment to such an undertaking may lead to attempts to thwart the system. Odden and Marsh (1988) recommended collaboration and initial involvement of key players to build commitment. They also recommended using cross-role teams, training and assistance, and continuing leadership support and pressure as ways to keep people interested in and committed to projects.

Financial assistance is necessary for the implementation of any innovation. In times of economic restraint, however, it usually means reallocating existing resources rather than finding new sources of revenue. One way to deal with the financial issue is to allocate resources in kind, for example, releasing staff members from current obligations to undertake new tasks, reassigning priorities for existing staff and financial commitments, and eliminating redundant or unproductive activities.

The importance of time cannot be underestimated. Assessing students takes considerable time; indicators must be selected judiciously so that the minimum amount of instructional time is required for measuring student outcomes. Sampling strategies such as those proposed by Maguire and Rogers (1989) and McLean (1987) can help to minimize the amount of time any individual student needs to be involved. Collecting information about the conditions (context, inputs, processes) may not disrupt instructional time but can exact a toll in terms of collecting, analyzing, and reporting results. Deploying more staff to complete these tasks can reduce elapsed time but may result in less accuracy because of the greater number of people working on different parts. Competing demands of accuracy and timeliness become a major issue.

System Design

The implementation of an indicator system presents many technical issues such as sampling, data collection, generalizability, reliability, and validity. Two research projects exemplify the differences between a centralized and a decentralized mode of operation. Frymier, Barber, Gansneder, and Robertson (1989) detailed some of the techniques used in a collaborative research project of students at risk with 276 schools in 87 Phi Delta Kappa (PDK) chapters. Data were collected from over 22,000 students and over 9,000 teachers. Reliability of the data collection was increased by having a small group of trained coders code the data from all sites. Analyses were also centralized, using the same statistical procedures and programs. This study illustrates a practical methodology for research with organizations that have both centralized and decentralized features. The PDK study can be contrasted to the approach and the resulting issues identified by the Canadian research team involved in the Second International Science Study (Connelly, Crocker, & Kass, 1988). Data were collected from over 20,000 grades 5, 9, and 12/13 students and their teachers. Canada was divided into three regions: western (the territories and the western provinces); central (Ontario); and eastern (Atlantic provinces). Within each region, the project was coordinated by a principal research team at a university. In effect, the project was akin to three separate but simultaneous projects because each of the coordinators had to conduct his or her portion within the jurisdiction of his or her university. Unlike the PDK study, there was no central organizing and coordinating structure.

Indicator systems should be as flexible as possible to provide for planning, policy and decision making purposes. This implies that improvement is the goal but that accountability must be demonstrated. There is no single appropriate indicator system, since each must be tailored to the needs, goals, priorities, and expectations of its originators. Thus, while a provincial government might be concerned about determining the efficiency and effectiveness of its educational system based on credible criteria for assessing performance, the federal government might be interested in the comparison of Canadian students with their international counterparts on valued knowledge and skills.

Reliability and Validity

For the establishment of any system of indicators, the mechanisms or tools for measuring the indicators must be reliable and valid. Although reliability of the instruments used to measure the indicators is always important, validity is paramount. That is, one should not steer away from potential indicators that are meaningful (high validity) but difficult to measure (low reliability). The current discussions on the need for more authentic student assessment of overall achievement aim to develop measures of highly meaningful skills, such as critical thinking, in more reliable ways (Frederiksen & Collins, 1989; Norris, 1989; Wiggins, 1989). This is contrasted with the current reliance on easy-to-score, multiple-choice questions that emphasize lower order thinking skills. McLean (1987) noted that many of the well constructed, psychometrically sound tests have strong validity for purposes

of sorting and ordering students but have low pedagogical validity because the tests do not suggest ways to improve learning. Ideal measurements should reflect school learning (the traditional notion of validity) and suggest improvements (pedagogical validity). McLean called pedagogical validity the soul of assessment and accountability its body or visible manifestation (p. 4).

Messick's (1988) distinction between evidential and consequential validity of an assessment instrument is also relevant for indicator systems. He argued that "the process of test use inevitably places test scores in both a theoretical context [evidential basis] of implied relevance and utility and a value context [consequential basis] of implied means and ends" (p. 41). Test developers and users have to be critical of these aspects of test use and interpretation when evaluating validity. There are clearly defined guidelines regarding the use and dissemination of test results (e.g., American Psychological Association, 1986; Code of Fair Testing Practices in Education, 1988; ETS Standards for Quality and Fairness, 1987; Standards for Educational and Psychological Testing, 1985). This is not the case with indicators such as demographics, student-teacher ratios, salaries, and so forth. Their nontechnical nature may lead to misuse and misinterpretation because of their deceptive simplicity. The actual meaning or interpretation of these types of indicators may be extremely complex.

Data Bases

An essential requirement for developing and implementing an indicator system is the establishment of a data base. Aside from issues of reliability and validity, one criterion for judging a data base is its currency. Currency of a data base should not be confused with the use of a data base to track yearly or periodic trends. The issue of currency for standardized tests relates to judging individual performance against the normative sample provided by the test developer. Koretz (1988) cited the lack of currency of the norms of standardized tests as one of the primary reasons for the Lake Wobegon effect (where many states performed above average). Because renorming a standardized test is an expensive and time-consuming process, the test user is forced to make trade-offs between an instrument that has excellent psychometric properties but dated norms and another that may be weaker psychometrically but has more up-to-date norms. One can supplement dated norms by maintaining local norms at the district or provincial level. Another solution is to combine normative information from the developer and to set a standard/criterion for specific schools/districts. Currency is also a concern for nontest score data bases. Once a commitment is made to establish a data base, it is important to ensure that there are established procedures and mechanisms for updating the information.

Another aspect of establishing and maintaining a data base is the consistency and comparability of the information collected. These issues become more complex as the number of reporting units increases and the number of instruments proliferates. For example, there are several instruments for measuring self-esteem. Similarly, a school system may note that nutrition is an important indicator of physical health, but individual schools may use different proxy measures of nutrition. Comparability is also an issue when measures evolve and change over time. Test developers in the cognitive

domain have developed techniques (such as vertical and horizontal scaling) for dealing with comparability. Techniques to deal with comparability for instruments in the affective and behavioral domains have generally been less sophisticated (such as correlation coefficients). Frymier et al. (1989) essentially dealt with this problem by insisting that individual PDK chapters use the same set of measures for the predetermined indicators/variables and allowing flexibility in others.

Political and Financial Issues

Political and financial issues are probably the most complex and difficult to resolve. Negotiation and compromise are required to deal with the many interrelated aspects of society. There are no solutions, only political trade-offs.

Competing Priorities

Education today is one of the many competing public policy areas. It is not independent of the social and economic aspects of society. Luke (1986) identified complexity and uncertainty as major issues. Globalization is another. Technology has lessened geographic and social distances so that the world is a smaller place where interaction of international, national, and local systems become more pervasive, intense, and visible (p. 75). Austrom and Lad (1989) characterized the turbulent environment as one of rapid change and uncertainty, which is a function of the complex and unpredictable changes in the social and geopolitical environment. As the rate of change has accelerated, the issues confronting organizations have emerged as interdependent problems (p. 23). Fiscal restraint, coupled with changing demographics and changed demands, has given rise to a variety of social needs that have not been addressed adequately through traditional institutional mechanisms (p. 28). Efficiency and effectiveness have become two criteria that dominate the public policy agenda.

Current trends in public policy include higher goals for society in economic, social, political, and science policy; increased benefits for both privileged and less privileged groups; the use of positive incentives for encouraging socially desired behavior; a more pragmatic, mixed approach in dividing responsibility between the public and private sectors; and the use of multi-criteria decision making (Nagel, 1988, pp. 13-14). Hunter (1988) identified 13 multifaceted and controversial issues that have and will continue to dominate the public policy agenda. Among these are education and training for a quality life and work force; refocusing on families and communities; and human and individual rights and values in practice. He suggested that a leadership challenge is to refocus on families and communities as key institutions in carrying out public policy while maintaining the rights and freedoms of individuals (p. 48). Among the strategies he proposed for managing change are recognizing the global scope of issues, the long-term nature of issues, and the crossing of traditional boundaries (p. 55). The current leadership challenge is to avoid crises while making changes to reduce conflict and restore balance; that is, to inform and engage people in building their own future by addressing the conflicts and imbalances in society and the economy and with other nations openly and honestly (p. 57). Luke (1986) suggested that the

interconnected context requires a “catalytic leader,” that is, one who engages in strategic thinking and facilitates the development of a shared vision and collaborative goal (p. 81).

In this context of competing priorities and fiscal restraint, educational authorities (local, provincial, or national) establish priorities in order to allocate scarce resources. For example, the 1988 Alberta School Act established five principles to ensure the fundamental purpose of education to ensure that students learn. These principles are access to quality education, equity, flexibility, responsiveness, and accountability (Alberta Education, 1987, p. 4). Alberta’s Minister of Education added three priorities to guide the direction of education: excellence, equity, and efficiency. These are similar to those proposed by Boyer (1989) who identified five priorities for the systemic rather than symbolic push for excellence: goals, equality, teachers, school leadership, and accountability. These two examples illustrate how priorities set the agenda for education within the context of the larger society.

Capacity and Constraints

Implementation of an indicator system needs to consider some of the competing forces at the local level that may either hinder or foster change. Firestone (1989) distinguished two aspects of the school system that influence possible actions toward reform, will and capacity. Will is determined by the responses of the dominant coalition (usually consisting of the superintendent, the principal, and other school staff) in the specific school district toward the proposed reform. The two critical dimensions of the group are propensity for action and the perceived utility of the reform or policy. The most active use of reform results from a combination of a high propensity for action and a positive perception of utility of a particular reform or policy. Three elements that are crucial for determining a district’s capacity are ease of personnel mobilization; necessary leadership qualities for the implementation of reform (such as providing and selling a vision, obtaining resources, handling disturbances); and positive district-school linkages (such as conveying the attitude that the district is serious about reform, provision of targeted support, ownership of reform by teachers). In order for the implementation to be successful, an indicator system must be perceived as useful, the dominant stakeholder groups should have a high propensity for action, the organizational structure must allow for personnel mobilization, there is strong leadership, and there are positive district-school linkages.

Lam (1985) developed a two-dimensional matrix for measuring the constraints on schools. His conceptual framework can be extrapolated to encompass schooling (government and school jurisdictions). According to his framework, there are four domains that constrain schooling. The political includes policy and control; the economic includes funding and resources; the social includes values and demographics; and the cultural includes ethnic groups and language (pp. 372-374). Five environmental attributes: change, complexity, organization, routineness (certainty), and directness can describe the external factors. This description can provide an understanding of the environment (p. 379). Zatko (1990) also commented on the difficulties in reforming education: the tension among top-down, collaborative, and

hybrid approaches to change; system inertia; the maintenance of sustained reform efforts; complexity and coordination; scope of reform; trust and collegiality; the differences between means and results; the desire for a blueprint versus a general direction; and the importance of communication.

Berry (1989) identified four interacting bases for transforming schools: vision (needs, beliefs, priorities), ownership (power, responsibility, decisions), capacity (role purpose, resources, operations), and support (organization and work structure). For successful change to occur, there needs to be a level of dissatisfaction with the existing order, a clear vision of what is desired, the identification of practical steps to effect change, and a belief that change is possible. These elements must be greater than the cost of change. Kanter (1989) suggested six criteria for forging successful partnerships and alliances over the long term: the relationship is important and gets adequate resources, management attention, and sponsorship; longer-term investment tends to help equalize benefits over time; the partners are interdependent which helps keep power balanced; organizations are integrated so that contact and communication are managed; each is informed about the plans and directions of the other; the partnership is institutionalized through a framework of supporting mechanisms, from legal requirements to social ties to shared values, which make trust possible (p. 173).

Implementation Strategies

This section presents some strategies for minimizing negative impacts in the implementation of indicator systems. Odden and Marsh (1988) developed a conceptual framework for studying education reform implementation research. They recommended that it should integrate analysis of the content of the reform, the process of its implementation in the local setting, and its effects; focus on the influence of the reform on the overall local educational system as well as on the content, implementation process and more specific impacts; integrate a macro (provincial/state level) with a micro (district/school level) focus for analyzing the above issues; draw on the distinction between developmental and redistributive types of government programs; use recent research on the local change process and relate the results to the macro context, to the content of the reform and to the outcomes at the local level; and identify several types of outcomes, including impacts on the individuals within local educational systems and impacts on the systems themselves (p. 45).

Virtually all the reports cited in the earlier sections identified the need to provide multiple perspectives on education in order to ensure that the indicator system will have the support of the key people in making it work. Therefore, the proposed strategy might be called the multiplier effect:

1. multiple goals of education, based on appropriate dimensions and domains of schooling;
2. multiple indicators of each goal measured by multiple methods;
3. multiple levels of analysis: student, class, school, system, province, (and potentially) country, the world; and
4. multiple participants: government, administrators, teachers, academics, parents.

Multiple goals are important because schooling is not a unidimensional activity. Most educational authorities have incorporated the development of student learning in cognitive, affective, behavioral, and social domains into their programs of study. Yet little information exists about students' progress in developing desired concepts, skills, and attitudes. Measuring desired performance beyond the cognitive domain requires more sensitive instruments than either criterion or norm-referenced testing approaches. Suggestions for developing pedagogical value in assessment were mentioned earlier (e.g., Frederiksen & Collins, 1989; McLean, 1987; Wiggins, 1989). In order to interpret the results and propose intervention strategies, it is also necessary to collect information about the conditions (context, inputs, processes) of schooling. Both the OECD and EQI projects have incorporated conditions into their indicator systems.

Multiple indicators of desired goals are important because each method of measurement has inherent philosophical and technical bases (House, 1983; Noblit & Eaker, 1988; Stufflebeam & Webster, 1988). If more than a single method is used to provide information about a particular goal, with its variations, more confidence in the findings will result. It is also easier to decide on improvement targets and strategies if the information comes from multiple sources. If parents, teachers, and administrators all agree that student attendance requires improvement, based on a school's attendance records and anecdotal evidence, the consensus of what the problem is will result in better ways to ameliorate the situation. Applying these indicators to the CIPP model might suggest that low achievement and poor self-esteem (cognitive and affective outcomes) originating in an economically depressed inner city school (context) might be ameliorated by appropriate interventions (process) made by reallocating staff, time, and other resources (inputs).

In addition to using multiple indicators for multiple goals, it is important to collect information so that multiple levels of analysis are possible. This has been referred to as micro versus macro analysis (Cziko, 1989; Odden & Marsh, 1988; Nagy, 1990) or as methods of aggregating data (Bock & Mislevy, 1988; McEwen & Zatko, 1989). Each of the various educational partners (students, parents, teachers, administrators, government, researchers, public) has different needs for information and each has a valuable perspective to contribute in interpreting results and suggesting improvement targets. Embedding multiple levels of analysis into the design of an indicator system will assist the different partners to share in the planning, setting policies, suggesting instructional practices, and making appropriate decisions for their particular constituent groups. Analyzing local and provincial results is possible when common goals, curricula, and assessment strategies are mandated. National and international comparisons introduce greater complexity due to differing educational philosophies, curricula, languages, organization, and so forth.

Finally, the key to the successful implementation of an indicator system is to involve the partners in the process (Luke, 1986; Kanter, 1989). An indicator system will succeed only if it is viewed as valuable and important. While each group of partners has its own agenda for reform and improvement, they can work together to take action on their particular area of

responsibility. Education, like other public policy areas, changes through negotiation and compromise among competing values and expectations. That this compromise should result on the basis of informed opinion rather than through vested interest is paramount. An effective indicator system, the goals, analyses, and methods of which represent multiple perspectives on education, can make a major contribution to improving education and, therefore, the economic and social prospects for the next generation.

Conclusion

The implementation of indicator systems is a complex activity fraught with potential pitfalls. Issues can be categorized as educational and social, administrative and technical, and political and financial. The negative impacts can be minimized if an indicator system is perceived as an integrated whole in which the various aspects function as a system. Multiple indicators are needed to reflect the complexities of schooling. There is no single recipe for an indicator system. Ideally it should be rooted in a conception of the important components of the operation and outcomes of schooling. The system should be based on the goals, priorities, and expectations of its originating group, be it local, provincial, national, or international. The more stakeholder groups that are involved, the greater the need for discussion and agreement as to the most salient and important aspects for monitoring. Successful implementation necessitates understanding the issues so that negative impacts can be minimized. Resolution often involves compromise among competing perceptions and values. The benefits of an effective integrated information system that provides a comprehensive picture of the broad aspects of schooling are worth the risk.

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References

- Alberta Education. (1987). *Framework for a new School Act. Highlights*. Edmonton: Government of Alberta.
- American Psychological Association. (1986). *Guidelines for computer-based tests and interpretations*. Washington, DC: Author.
- Austrom, D.R., & Lad, L. (1989). Collaborative approaches to turbulence in the sociopolitical environment: The emergence of issues management alliances. *Futures Research Quarterly*, 5(4), 22-42.
- Berry, S. (1990, February). *Collaborative structure for outcome-based education*. Paper presented at the annual conference on outcome-based education, Phoenix, AZ.
- Bock, R.D., & Mislevy, R.J. (1988). Comprehensive educational assessment for the states: The duplex design. *Educational Evaluation and Policy Analysis*, 10(2), 89-105.
- Boyer, E.L. (1989, October 1). School reform. A national strategy. *Vital Speeches of the Day*, 741-744.
- Brandt, R. (1989). On misuse of testing: A conversation with George Madaus. *Educational Leadership*, 46(7), 26-30.
- Carroll, J.B. (1963). A model of school learning. *Teachers College Record*, 64(8), 723-733.
- Code of fair testing practices in education. (1988). Washington, DC: Joint Committee on Testing Practices.
- Coleman, P. (1986). The good school district: A critical examination of the adequacy of student achievement and per pupil expenditures as measures of school district effectiveness. *Journal of Education Finance*, 12(1), 71-96.

- Connelly, F.M., Crocker, R.K., & Kass, H. (1985). *Science education in Canada. Volume 1: Policies, practices, and perceptions*. Toronto, ON: OISE Press.
- Connelly, F.M., Crocker, R.K., & Kass, H. (1988). National curriculum research: Problems in the metamethodology of studies concerned with state policy and local variation. *Comparative Education Review*, 32(4), 430-451.
- Connelly, F.M., Crocker, R.K., & Kass, H. (1989). *Science education in Canada. Volume 2: Achievement and its correlates*. Toronto, ON: OISE Press.
- Cuban, L. (1990). Reforming again, again, and again. *Educational Researcher*, 19(1), 3-13.
- Cziko, G.A. (1989). Unpredictability and indeterminism in human behavior: Arguments and implications for educational research. *Educational Researcher*, 18(3), 17-25.
- ETS Standards for quality and fairness. (1987). Princeton, NJ: Educational Testing Service.
- Fetler, M. (1989). School dropout rates, academic performance, size, and poverty: Correlates of educational reform. *Educational Evaluation and Policy Analysis*, 11(2), 109-116.
- Finn, C.E., Jr. (1988). Education reform in the United States: Trends and issues. *International Journal of Education Research*, 12, 115-121.
- Firestone, W.A. (1989). Using reform: Conceptualizing district initiative. *Educational Evaluation and Policy Analysis*, 11(2), 151-164.
- Fraser, B.J., Walberg, H.J., Welch, W.W., & Hattie, J.A. (1987). Syntheses of educational productivity research. *International Journal of Educational Research*, 11(2), 147-252.
- Frederiksen, J.R., & Collins, A. (1989). A systems approach to educational testing. *Educational Researcher*, 18(9), 27-32.
- Frymier, J., Barber, L., Gansneder, B., & Robertson, N. (1989). Simultaneous replication: A technique for large-scale research. *Phi Delta Kappan*, 71, 228-231.
- Goodlad, J.I. (1984). *A place called school*. New York: McGraw-Hill.
- Hargreaves, A. (1989). *Curriculum and assessment reform*. Toronto, ON: OISE Press.
- Health and Welfare Canada. (1989). *Charting Canada's future: A report of the demographic review*. Ottawa: Minister of Supply and Services Canada.
- House, E.R. (1983). Assumptions underlying evaluation models. In G.F. Madaus, M. Scriven, & D.L. Stufflebeam (Eds.), *Evaluation models: viewpoints on educational and human services evaluation*. Hingham, MA: Kluwer-Nijhoff.
- Hunter, K.W. (1988). Facing the public policy issues in 1989. *Futures Research Quarterly*, 4(3), 37-58.
- Hymel, G.M. (1988, April). *A macromodel of effective, outcome-based mastery learning school variables: An expanded view*. Paper presented at the annual meeting of the American Educational Research Association, New Orleans.
- Kanter, R.M. (1989). *When giants learn to dance: Mastering the challenge of strategy, management, and careers in the 1990s*. Toronto, ON: Simon and Schuster.
- Koretz, D. (1988). Arriving in Lake Wobegon: Are standardized tests exaggerating achievement and distorting instruction? *American Educator*, 12(2), 8-15.
- Koretz, D. (1989). The new national assessment: What it can and cannot do. *NEA Today, Special edition—Issues '89*, 23-37.
- Lam, Y.L.J. (1985). Toward the construction of a school environment instrument: A conceptual framework. *Canadian Journal of Education*, 10, 362-382.
- Lightfoot, S. (1983). *The good high school*. New York: Basic Books.
- Luke, J.S. (1986). Managing interconnectedness: The need for catalytic leadership. *Futures Research Quarterly*, 2(2), 73-83.
- Maguire, T.O., & Rogers, W.T. (1989). Proposed solutions for nonrandomness in educational research. *Canadian Journal of Education*, 14, 170-181.
- McDonnell, L.M., & Elmore, R.F. (1987). *Alternative policy instruments*. Washington, DC: Center for Policy Research in Education.
- McEwen, N. (1990, April). *Educational quality indicators: Developing indicator systems in Alberta*. Paper presented at the annual meeting of the American Educational Research Association, Boston.
- McEwen, N., & Zatko, G. (1989, June). *Educational quality indicators: Framework for action*. Paper presented at the annual meeting of the Canadian Educational Researchers' Association, Quebec City.
- McLean, L.D. (1985). *The craft of student evaluation in Canada*. Toronto, ON: Canadian Education Association.

- McLean, L.D. (1987, April). *Emerging with honour from a dilemma inherent in the validation of educational achievement measures*. Paper presented at the annual meeting of the American Educational Research Association, Washington, DC.
- Meisels, S. (1989). High-stakes testing in kindergarten. *Educational Leadership*, 46(7), 16-22.
- Messick, S. (1988). The once and future issues of validity: Assessing the meaning and consequences of measurement. In H. Wainer & H.I. Braun (Eds.), *Test validity* (pp. 33-45). Hillsdale, NJ: Lawrence Erlbaum.
- Nagel, S.S. (1988). Trends in public policy in America. *Futures Research Quarterly*, 4(3), 5-16.
- Nagy, P. (1990, May). *Must we examine outcomes?* Paper presented at the annual conference of the Canadian Evaluation Society, Toronto.
- Nagy, P., Drost, D., & Banfield, H. (1985). A path analytic study of the influences of community isolation on student achievement. *Alberta Journal of Educational Research*, 31, 209-227.
- Nagy, P., Traub, R.E., & MacRury, K. (1986). *Strategies for evaluating the impact of province-wide testing*. Toronto, ON: Ontario Institute for Studies in Education.
- Neill, D.M., & Medina, N.J. (1989). Standardized testing: Harmful to educational health. *Phi Delta Kappan*, 70, 688-697.
- Noblit, G.W., & Eaker, D.J. (1988). Evaluation design as political strategies. In J. Hannaway & R. Crowson (Eds.), *The politics of reforming school administration: The 1988 yearbook of the Politics of Education Association* (pp. 127-138). Philadelphia, PA: Falmer.
- Norris, S.P. (1989). Can we test validly for critical thinking? *Educational Researcher*, 18(9), 21-26.
- Nuttall, D.L. (1990, April). *The functions and limitations of international education indicators*. Paper presented at the annual meeting of the American Educational Research Association, Boston.
- Oakes, J. (1986). *Educational indicators: A guide for policymakers*. New Brunswick, NJ: Center for Policy Research in Education, Rutgers University.
- Oakes, J. (1987). Tracking in secondary schools: A contextual perspective. *Educational Psychology*, 22, 129-153.
- Oakes, J. (1989). What educational indicators? The case for assessing the school context. *Educational Evaluation and Policy Analysis*, 11(2), 181-199.
- Odden, A. (1990). Educational indicators in the United States: The need for analysis. *Educational Researcher*, 19(5), 24-29.
- Odden, A., & Marsh, D. (1988). State education reform implementation. In J. Hannaway & R. Crowson (Eds.), *The politics of reforming school administration: The 1988 yearbook of the Politics of Education Association* (pp. 41-60). Philadelphia, PA: Falmer.
- Office of Educational Research and Improvement (OERI). (1988). *Creating responsible and responsive accountability systems*. Washington, DC: US Office of Educational Research and Improvement.
- Organisation for Economic Cooperation and Development (OECD). (1989a). *Project on International Educational Indicators (INES Project): Review of preliminary results and proposal for future work*. Paris: Author.
- Organisation for Economic Cooperation and Development (OECD). (1989b). *Schools and quality. An international report*. Paris: OECD Publications Service.
- Purkey, S.C., & Smith, M.S. (1983). Effective schools: A review. *The Elementary School Journal*, 83(4), 427-452.
- Radwanski, G. (1987). *Ontario study of the relevance of education, and the issue of dropouts*. Toronto, ON: Ontario Ministry of Education.
- Rutter, M., Maughan, B., Mortimore, P., Ouston, J., & Smith, A. (1979). *Fifteen thousand hours: Secondary schools and their effects on children*. Cambridge, MA: Harvard University Press.
- Selden, R.W. (1988). Missing data: A progress report from the states. *Phi Delta Kappan*, 69, 492-494.
- Shavelson, R.J. (1988). Contributions of educational research to policy and practice: Constructing, challenging, changing cognition. *Educational Researcher*, 17(7), 4-11, 22.
- Shavelson, R.J., McDonnell, L., Oakes, J., Carey, N., & Picus, L. (1987). *Indicator systems for monitoring mathematics and science education*. Santa Monica, CA: RAND.
- Shepard, L.A. (1989). Why we need better assessments. *Educational Leadership*, 46(7), 4-9.
- Standards for educational and psychological testing*. (1985). Washington, DC: American Psychological Association.

- Stufflebeam, D., & Webster, W.J. (1988). Evaluation as an administrative function. In N.J. Boyan (Ed.), *Handbook of research on educational administration* (pp. 569-602). New York: Longman.
- Tyler, R.W. (1984). A guide to educational trouble-shooting. *Educational Leadership*, 41(8), 27-30.
- Walberg, H.J. (1984). Improving the productivity of America's schools. *Educational Leadership*, 41(8), 19-27.
- Wiggins, G. (1989). A true test: Toward more authentic and equitable assessment. *Phi Delta Kappan*, 70(9), 703-713.
- Zatko, G. (1990, April). *The Alberta strategy for educational reform: Balancing inputs, processes, and results*. Paper presented at the annual meeting of the American Educational Research Association, Boston.

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Paradigm Wars: Who's Fighting; Who's Winning?

Over the past decade, the qualitative/quantitative paradigm war has continued in educational research. A careful analysis of the epistemological, ontological, and methodological bases for the argument reveals no substantive reasons for clinging to the belief that the qualitative and quantitative paradigms are incompatible. Indeed, most of the participants in the debate elect for a combination of approaches to research. Nonetheless, despite the fact that there is evidence that qualitative research has an important role in the advancement of knowledge in education and psychology, positivist (quantitative) research is still dominant in the literature.

In the past decade, one of the most hotly debated issues in the area of educational research has been whether qualitative methods, quantitative methods, or a combination of both are most appropriate. According to Shulman (1981), "what distinguishes disciplines from one another is the manner in which they formulate their questions ... and the principles of discovery and verification that constitute the ground rules for creating and testing knowledge in their fields" (p. 6). Hence discussions about the nature of science and the appropriateness of research paradigms should be important to researchers in education.

A close examination of developments in educational research reveals that views about science in this field have been influenced largely by debate in other social sciences, particularly psychology, where paradigmatic struggles are similar to those in education. Indeed, many of the questions about "discovery and verification" in education parallel those in psychological research. Moreover, many of the questions of interest to psychologists are also of interest to educational researchers. Therefore, to strengthen the analysis, this discussion of methods appropriate for research in education includes an examination of developments in psychology.

The purpose of this paper is to clarify the current debate. The primary intent of the debate is ostensibly to improve the quality of research by providing researchers with a solid basis for decision making regarding research design. However, a bewildering array of opposing viewpoints concerning the "proper way to do science" are presented in the literature. Faced with a multiplicity of conflicting and often confusing perspectives, the researcher is likely to find the literature singularly unenlightening.

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To illuminate the argument, viewpoints presented over the last decade in two influential journals, *Educational Researcher* and *American Psychologist*, are summarized. Central tenets of the quantitative and qualitative paradigms are first presented. Then, as philosophical discussions about proper science generally contain elements of epistemology, ontology and methodology, arguments in support of the two paradigms are divided into these three domains. The impact of the debate on the actual conduct of research is examined, as evidenced by reported research. The paper concludes with a discussion about the future of the debate and directions for research in education.

Competing Paradigms

Beliefs about the way science should be conducted generally fall under two paradigms. One paradigm adheres closely to positivism and is usually termed quantitative or empiricist; the other paradigm is clearly anti-positivist and is frequently termed qualitative or interpretivist/contextualist. Firestone (1987), Manicas and Secord (1983), and Phillips (1983) summarize the positivist position. According to these authors, positivist philosophy demands that scientific propositions be based on observable data. It is assumed that there is correspondence between what is observed and what is "real," The goal of science is to reveal "truth," that is, the lawful relationships between observables. The scientist makes every effort to ensure objectivity of observations. Working from an assumption that a single, explainable reality exists, positivists strive to produce results that are reliable and statistically generalizable. They look for regularities and causal relationships among phenomena. The context in which the observed phenomena occur is considered to be important only insofar as it "contaminates" the data; thus attempts are made to eliminate contextual factors, to control them, or to incorporate them through the research design or statistical procedures. Positivism is generally associated with experimental and quasi-experimental methods.

The positivist paradigm has been dominant in western philosophy until recently and has provided the basis for most scientific endeavor in both the natural and human sciences. However, as Smith (1983) and Phillips (1983) point out, there are those (antipositivists) who challenge the precepts of positivism, particularly for study in the human sciences. Antipositivists maintain that there is not one immutable reality, but rather that reality exists in the mind of each individual. Because human understandings are intertwined with intentions, goals, and purposes, study in the human sciences must incorporate context, rather than attempt to exclude or remove it. Thus the investigator and the subject of investigation cannot be separated. The goal of science, according to the antipositivists, is to search for understanding and common meaning, rather than prediction and control (Gage, 1989). Reductionist and decontextualist methods are deemed inappropriate for study in human science (Jennings, 1986; Kukla, 1986). Various schools of thought fall under the rubric of antipositivism, including contextualism, social constructionism, deconstructionism, critical theory, phenomenology,

and hermeneutics. Associated methods include ethnography, case studies, in-depth interviews, and participant observation.

Philosophical Considerations

Arguments in the qualitative/quantitative debate are often confusing because assumptions and presuppositions underlying the author's position have not been made clear. Moreover, similar arguments may sound different depending on whether the author is arguing from an epistemological, ontological, or methodological perspective. To help clarify the discussion, differences between the three philosophical perspectives are outlined below, and papers representing the various positions are reviewed.

Epistemological Concerns

Epistemology is the study of knowledge and how that knowledge is obtained. The epistemologist is interested in the nature of science and asks questions such as: How should science be conducted? How can progress in science be measured? What are the limitations of scientific knowledge? Also included in the category of epistemology are questions about the role of values in science: Is science value neutral? Is it possible for the scientist to make value free decisions or judgments? Can observation provide unassailable knowledge, or is all knowledge and observation value laden?

In the context of the current debate the central epistemological questions are what science is and what it is not, and how scientific progress should be measured. Until the early 1960s, science was dominated by positivist philosophy, which held that scientific advance was an orderly progression based on the results of carefully controlled experiments designed to provide verification or falsification of hypotheses. Conclusions were deemed to be value free and based on logical deduction, and progress was measured by closer and closer approximations to "truth."

This position was challenged by Kuhn (1970) whose radical ideas provided the basis for much of the current debate. Kuhn's work is interpreted by Manicas and Secord (1983) as suggesting that scientific decisions are not as rule governed as positivists would insist. Instead, Kuhn depicts science as a social activity, in which all observations are value laden. He observes that in each discipline, a set of fundamental beliefs, termed a paradigm, determines what questions the scientist finds interesting and what answers are seen as acceptable. Thus, according to Gholson and Barker (1985), Kuhn suggests that differing paradigms are mutually exclusive. Progress in science occurs when a sufficient number of researchers become dissatisfied with the answers provided by one paradigm and make a radical shift to another perspective. In effect, one paradigm is overthrown by another, and a new set of beliefs forms the basis for decision making. Consequently, incompatibility of paradigms is essential to progress.

Kuhnian philosophy was welcomed by antipositivists who were seeking a way to "legitimize" their endeavor (Phillips, 1983). In the antipositivist view, Kuhn's ideas provided testimony that scientific knowledge is in fact context dependent, and that no single reality exists. Furthermore, Kuhn said nothing about method, and how scientific knowledge should be obtained, which suggested to antipositivists that logical-deductive, positivist techniques were no

longer the only methods acceptable. Mainstream scientists were, however, upset by these suggestions, which to them smacked of relativism. If there were no one reality, and no one way of conducting science, how was one to distinguish between scientific and nonscientific activity? If, as Phillips (1983) suggested, "to be regarded as knowledge, the belief in question has to be justified in some way" (p. 11), how was one to measure the adequacy of justification? Moreover, according to Smith (1983), Kuhnian thought indicated that paradigms were in competition with one another, and therefore incommensurable, which suggested that if positivism was dead, relativism could take over. Fearing that this would happen, positivists lined up in decided opposition to the new philosophy.

There was no doubt that positivism had been seriously challenged, but what was to take its place? Was there to be a new definition of science? Philosophers, including Lakatos (1978) and Laudan (1977) strove to provide alternative epistemologies, somewhere between realism and relativism, that would answer the concerns of the positivists while recognizing the role of values and social factors in science. According to Gholson and Barker (1985), Lakatos acknowledged the existence of certain "hard core" assumptions that formed the basis of what he termed a research program. These assumptions were socially agreed on and essentially unprovable, but, as with Kuhn's paradigm, they formed the foundation for decision making. Scientific progress was evidenced in theories that led to new and better predictions. Lakatos believed that in any one field there could be more than one set of "hard core" assumptions, and that there was no one method that would guarantee scientific advance.

Similarly, Laudan (1977) talked of a research tradition, a "family of theories sharing a common ontology and methodology" (Gholson & Barker, 1985, p. 761), which could change as the research tradition evolved. Progress in science was, to Laudan, the ability of the science to solve problems of interest. Again, as Macmillan and Garrison (1984) suggest, Laudan did not discuss method as such; his philosophy would suggest that a plurality of methods would be acceptable.

How, then, should science be defined in psychology and education? Gholson and Barker (1985) argue convincingly that a blend of positivist and relativist beliefs and methodologies will provide the most satisfactory advance in science in psychology. They base their arguments on the work of Lakatos and Laudan, and maintain that from this perspective a plurality of methods is the only defensible position.

Certainly, positivism alone has failed to provide satisfactory answers to date. As Macmillan and Garrison (1984) note in their criticism of research in education, "a healthy, progressive research tradition should have come up with more significant results than this one has" (p. 18). They suggest that the problem with positivist research rests in the fact that it "is conducted in the language of analysis of variables, but its application is in the intentional language of action and belief" (p. 18). Therefore, based on the epistemologically sound premises of the new philosophy of science, they contend that researchers should use whatever methods they feel will provide them with answers to questions of interest.

Similarly, Mosenthal (1985), in discussing progress in educational research, outlines the definitions of progress put forward by positivists and antipositivists (in this case interpretivists and critical theorists) and submits that all definitions have merit. Citing Lakatos and Laudan, Mosenthal indicates that researchers should have “freedom of choice but not freedom from choice” (p. 7). To him, the important issue is that the researcher make an informed choice, one based on thoughtful understanding of underlying assumptions. Tuthill and Ashton (1983) go as far as to indicate that educational researchers must develop their own paradigm of “common values, assumptions, goals, norms, language, beliefs, and ways of perceiving and understanding the educational process” (p. 9), and that paradigmatic disputes should be solved “democratically.” In their view, a plurality of methods is acceptable, provided the researcher recognizes that all scientific knowledge is social knowledge acquired through social processes. These same authors (Tuthill & Ashton, 1984) maintain that the distinction between quantitative and qualitative methods is not an interesting or useful one; what is important is the way in which prior knowledge affects the acquisition of scientific knowledge.

Howe (1985) supports this argument by stating that “rigid epistemological distinctions between quantitative and qualitative methods ... rest on positivistic dogmas, and ... post-positivistic thought eliminates the intractable problem engendered by positivistic epistemology of a forced choice between value-laden/qualitative and value-free/quantitative research methods” (p. 10). In a later article, Howe (1988) repeats his position, finding support in the work of much earlier philosophers, including James and Dewey, proponents of what he terms the pragmatic tradition. He contends that the claim of incompatibility between paradigms is essentially an artifact, and suggests that, “far from being incompatible, then, quantitative and qualitative methods are inextricably intertwined” (p. 12).

From the above arguments it appears that the majority of those engaged in the controversy would contend that the most fruitful position for researchers in human science is somewhere between positivism and relativism, that is, in the creation of a new model which would combine the two opposing paradigms. Despite persuasive arguments, however, not everyone is convinced of the commensurability of paradigms. Smith and Heshusius (1986) maintain that the compatibility thesis merely bows to “what works” without thought to the underlying epistemology. Some are still prepared to assume opposing positions, as evidenced by Eisner’s (1983) and Phillips’ (1983) spirited debate in which Phillips calls for a return to some positivist beliefs, and Eisner argues that positivism is, and should remain, dead. Others such as Gergen (1985) argue that positivist assumptions are completely untenable, and have no place in science. Thus the debate continues.

Ontological Concerns

Ontology is the study of what it is “to be.” It is often difficult to separate ontology and epistemology because one’s ontological beliefs strongly influence one’s epistemological position. Nevertheless, a particular epistemology does not necessarily follow from a particular ontology. Confusion arises

when participants in the current debate present an ontological position and make assumptions about epistemology, without explicating these assumptions. Therefore, it is important to make a distinction between epistemology and ontology and to be able to recognize the respective supporting arguments.

Ontological questions of interest in the present discussion can be posed at several levels. First, there is the very general question about the nature of reality. For example, philosophers at the farthest extreme of relativism would suggest that reality exists in name only; names, concepts, and labels are used to structure a reality which does not exist outside the mind of the individual. In contrast, realists would suggest that the social world external to individual cognition is made up of hard, tangible, and relatively immutable structures, that is, the social world exists independent of the individual's perception of it. At another level of ontological questioning is the concept of the character of human nature. Are individuals completely autonomous and free willed (voluntarism), or are man's activities dominated or determined by the environment (determinism)? Because of the close link between epistemology and ontology, the ontological commitment to realism or relativism was implicit in many of the arguments discussed above, and no further analysis of that aspect of the argument will be made here.

Leaving aside realism and relativism, the central ontological question in education is related to beliefs about the determinacy of human behavior. This same question has received intensive scrutiny by psychologists. Cziko (1989) contends that the issue is in fact not whether the individual's behavior is determined, but whether it is predictable. He argues that "complex human behaviour of the type that interests educational researchers is by its nature unpredictable if not indeterminate" (p. 17) and supports his position from both deterministic and indeterministic perspectives. In his view, even if behavior is determined, interaction of the individual with the determinants is so complex that the behavior cannot be predicted. He shows that "even though the relationship between two variables may be both quite simple and completely deterministic, a nonlinear relationship may nevertheless lead to outcomes that are entirely unpredictable" (p. 19). From an indeterministic perspective, he provides evidence for the influence of human consciousness and free will on human behavior. Thus, with regard to educational research, he questions the validity of strictly quantitative, experimental approaches, concluding that, because of the unpredictability of human behavior, research must be limited to description and interpretation.

Kimble (1984), in his examination of value systems of psychologists, finds most respondents to have leanings in the direction of humanism (antipositivism). The one exception is the question of determinacy. He notes that all psychologists are determinists to some degree. Royce (1982) shows agreement with this position in suggesting that the problem of determinacy, which he considers one of the central philosophic issues facing psychology today, "needs to be recast in terms of degrees of determinism, depending on the behaviour in question" (p. 262).

Although psychologists may agree that all behavior is at least to some extent determined, the argument does not end there. Staats (1981) outlines

some important ontological questions that he believes are divisive in psychology. In his conception, there are essentially two psychological camps, the behaviorists and the traditionalists, and the two groups have very different ontological positions. For example, on the question of the intentionality of behavior he notes that “the traditional conception of humans as active, striving, self-directing, cognitively aware, and purposive organisms” (p. 240) is challenged by the behaviorist view of human behavior as mechanistic and passive. He suggests that “psychologists who adhere to one of these two conceptions reject the other and its associated works” (p. 240). Another significant question, in Staats’ view, is the concept of personality. Behaviorists, he maintains, believe that there are no internal personality processes, whereas traditionalists believe that the individual has personality structures or processes that determine behavior.

In each area of psychology, particular ontological questions arise and parallel questions are raised in education. For example, in developmental psychology, the concern is “what is the nature of the child?” In an interesting conversation among four of the most prominent developmental psychologists, agreement was reached that “the child, or more specifically, our conceptions of the child are cultural inventions (or constructions)” (Bronfenbrenner, Kessel, Kessen, & White, 1986, p. 1227), and that behavior is intentional and partially determined by person-environment interaction. Clearly such an ontological position would lead the researcher in either education or psychology to consider other than positivist epistemology and methods.

Methodological Concerns

Methodological questions can be discussed at more than one level of abstraction. Smith and Heshusius (1986) make a distinction between “method as technique and method as logic of justification” (p. 4). In considering method as logic of justification, one must attend to the relationships among epistemology, ontology, and method. Discussions that focus on method as technique, on the other hand, are at a lower level of abstraction. Here the concern is with specifics of a particular method, with little regard to the underlying epistemological or ontological assumptions.

From the discussions above, the linkage between epistemology, ontology, and method as logic of justification should be evident. Radical positivists have a realist and determinist ontological perspective; thus they demand objective methods. Radical antipositivists have a relativist and indeterminist position; they demand subjective, interpretive methods. Those who accept a middle-of-the-road epistemology maintain that subjective and objective approaches need not be mutually exclusive; they advocate a blending of methods.

Shulman (1981) points out that it is critical to engage in discussions about proper method, because in any research endeavor, confidence in the method used will determine confidence in the findings. One important methodological question is related to the generalizability of results. Here again, the link with ontology is evident; if one believes in a single reality, generalizability is a central concern. In contrast, if one believes in multiple realities, one must

either refute the importance of generalizability or accept an alternative definition which allows for generalizability of meaning rather than "fact."

The question of generalizability is important in applied disciplines such as psychology and education. Firestone (1987) and Shulman (1981) maintain that if the objective of research is to answer questions of interest, the best approach is the one that supplies the most useful answers, and in an applied discipline answers must be generalizable to more than one situation if they are to inform practice. Each mode of inquiry, says Firestone (1987), has its own strengths. To illustrate, he describes two studies on the same topic but using different methods. The quantitative study "uses a hydraulic image of determinism as if pressure from one variable changes another," whereas the qualitative study "presents a more complex view of a world in which there are limits and opportunities that individuals must take into account and use" (p. 19). The advantage of the quantitative study is that it shows "a pattern that extends across a large number of situations," while the strengths of the qualitative study are a "concrete depiction of detail, portrayal of process in an active mode, and attention to the perspectives of those studied" (p. 20). Both are important, argues Firestone, for in coming at the same problem from different directions, they provide different kinds of information. The quantitative study alone fails to provide the insights and understandings necessary to inform practice; the qualitative study alone fails to provide generalizability. Combining methods affords richer, more useful results.

Not everyone agrees with Firestone's position. Banaji and Crowder (1989) suggest that the present preoccupation with what they term "ecological validity of method," that is, with qualitative studies that seek to provide insight and understanding, leads to research that has limited usefulness. They maintain that "an obsession with ecological validity of method can compromise genuine accomplishments" (p. 1185). In Dar's (1987) view, "we should direct our energy into building integrated research programs capable of producing strong and meaningful predictions and contributing to real scientific progress in psychology" (p. 151). Such research programs do not include qualitative approaches. Similarly, Rosnow and Rosenthal (1989) call for a strengthening of existing quantitative methods, not for new modes for research.

At the level of method as technique, there are numerous arguments in each paradigm about how to improve the calibre of research. For example, Rosnow and Rosenthal (1989), who are clearly positivist in their view, describe four main difficulties in current (positivist) research practice: the overreliance on dichotomous significance testing decisions; the tendency for studies to have low power; the frequent definition of results in terms of significance tests alone; and the failure of scientists to conduct replication studies.

In the qualitative paradigm, Miles and Huberman (1984a, 1984b), who admit to being "close to the middle ground" (1984a, p. 23) in their epistemology, propose a model for analysis of qualitative data. They suggest techniques for data reduction, data display, and conclusion drawing. Marshall (1984) criticizes the model, arguing that Miles and Huberman are trying to force qualitative analysis into positivist modes. She argues that "qualitative re-

search must not be beaten into submission to the approximations of the methods and criteria set by positivists ... It must preserve the chance to explore, capitalize on divergent analyses, and continue to capture the insights of the human research tool" (p. 28).

In summary, in the methodological debate discussions pertaining to method as logic of justification refer to whether subjective, qualitative methods yield useful results, or whether objective, quantitative methods are best. At the level of method as logic of technique, the debate centers on the best way to carry out research in each paradigm.

Impact of the Debate on Educational Research

After more than a decade of debate regarding the nature of proper science in education and psychology, it seems fairly clear that radical positivism is seriously ailing. Kuhn and others have demonstrated that science is not value free; that social forces play an essential role in how observations are made and interpreted; and that progress in science may be defined in many different ways. Philosophers of science have defined a new epistemology that recognizes the role of human interactions in scientific endeavor. In this epistemology, the assumption for human science is of an underlying pattern or structure of human behavior, a pattern that is not immutable, but socially constructed. The goal of science is defined as problem solving, and acceptable methods include any that can help to solve the problems of interest.

Most of those involved in the debate about proper science in education argue in favor of the new epistemology. They suggest that each paradigm can contribute to understanding in education, with qualitative methods used in a mode of discovery, and quantitative methods used for verification and justification. A few cling to the belief that combining paradigmatic assumptions, that is, adopting an epistemology that argues for some degree of relativism and determinism, while accepting the existence of some structure, is impossible. They maintain that paradigms are incommensurable, because the basic assumptions on which they are founded are polar opposites. If one considers only the most extreme positions of positivism and interpretivism, this position is no doubt correct. However, these authors fail to present convincing arguments as to why it is necessary to adopt such radical views. There appears to be no logical reason why a middle-of-the-road epistemology should not be accepted.

Given that argument, and accepting that there has been dissatisfaction among practitioners regarding the effectiveness of research in informing practice (Macmillan & Garrison, 1984; Schubert, 1980) one would expect that major changes in the practice of research in education would have occurred over the last decade.

At the beginning of the decade, it was evident that the vast majority of studies reported used quantitative methods. Willson (1980) reviewed studies reported in the *American Educational Research Journal* (AERJ) from 1969 to 1978 and indicated that only 2% of the total used qualitative techniques. Has the picture changed dramatically? To answer this question, a review of articles published in AERJ from mid-1988 to mid-1989 was undertaken. Of the 27 studies reported, nine (33%) used qualitative techniques, at least to

some degree. This represents a substantial increase. These results raise an interesting question. If qualitative methods meet epistemological criteria for proper science, and if they can provide insights and understandings required for research in an applied discipline, why does the debate continue? Moreover, why are qualitative approaches not more widely accepted and used? The answer may be found in what might be termed sociopolitical considerations. Eisner (1988) suggests that socialization in a particular method affects the way we view science and scientific methods. The dominance of positivism has, until recently, resulted in a limited exposure of fledgling scientists to alternative (interpretivist) strategies. Thus a bias in favor of positivistic definitions of science remains. This bias can have important influences on scientific practice. As Kupfersmid (1988) and Wachtel (1980) have pointed out, in the scientific community rewards are largely in the form of publications and grants awarded. Editors and members of grant committees are themselves prominent scientists, most of whom have been schooled in positivist methods and many of whom hold qualitative approaches suspect. The result is often rejection of articles and grant applications in which qualitative methods are featured. Kupfersmid (1988) indicates that "researchers interested in increasing the chances of publishing their empirical investigations [must] avoid creative or innovative experimental designs and [must] concentrate efforts on areas that are easy to test and are noncontroversial" (p.635).

The picture may be changing, however. A greater attention to philosophy of science issues is evident in university graduate programs where novice researchers are trained, and it can only be hoped that they are learning to examine and question the assumptions underlying their choice of research method. Such analysis holds promise for the release of researchers from slavish and unthinking devotion to particular approaches. As these new graduates, and their mentors, exert their influence both in academic settings and on editorial boards and grant committees, paradigmatic distinctions may disappear.

The battle is far from over (Gage, 1989), but there are signs of, if not rapprochement, at least detente. The battle will be won when researchers make their decisions based on informed deliberation, not dogma. As the debate continues, hope grows for true advance in research in education.

References

- Banaji, M.R., & Crowder, R.G. (1989). The bankruptcy of everyday memory. *American Psychologist*, 44, 1185-1193.
- Bronfenbrenner, U., Kessel, F., Kessen, W., & White, S. (1986). Toward a critical social history of developmental psychology. *American Psychologist*, 41, 1218-1230.
- Cziko, G.A. (1989). Unpredictability and indeterminism in human behaviour: Arguments and implications for educational research. *Educational Researcher*, 18(3), 17-25.
- Dar, R. (1987). Another look at Meehl, Lakatos, and the scientific practices of psychologists. *American Psychologist*, 42, 145-151.
- Eisner, E.W. (1983). Anastasia might still be alive, but the monarchy is dead. *Educational Researcher*, 12(5), 13-14, 23-24.
- Eisner, E.W. (1988). The primacy of experience and the politics of method. *Educational Researcher*, 17(5), 15-20.
- Firestone, W.A. (1987). Meaning in method: The rhetoric of quantitative and qualitative research. *Educational Researcher*, 16(9), 16-20.

- Gage, N.L. (1989). The paradigm wars and their aftermath. A "historical" sketch of research on teaching since 1989. *Educational Researcher*, 18(7), 4-10.
- Gergen, K.J. (1985). The social constructionist movement in modern psychology. *American Psychologist*, 40, 266-275.
- Gholson, B., & Barker, P. (1985). Kuhn, Lakatos and Laudan. Applications in the history of physics and psychology. *American Psychologist*, 40, 755-769.
- Howe, K.R. (1985). Two dogmas of educational research. *Educational Researcher*, 14(8), 10-18.
- Howe, K.R. (1988). Against the qualitative-quantitative incompatibility thesis or dogmas die hard. *Educational Researcher*, 17(9), 10-16.
- Jennings, J.L. (1986). Husserl revisited. The forgotten distinction between psychology and phenomenology. *American Psychologist*, 41, 1231-1240.
- Kimble, G. (1984). Psychology's two cultures. *American Psychologist*, 39, 833-839.
- Kuhn, T.S. (1970). *The structure of scientific revolutions* (2nd ed.). Chicago: University of Chicago Press.
- Kukla, A. (1986). On social constructionism (letter). *American Psychologist*, 41, 480-481.
- Kupfersmid, J. (1988). Improving what is published. A model in search of an editor. *American Psychologist*, 43, 635-642.
- Lakatos, I. (1978). *The methodology of scientific research programmes*. Cambridge, UK: Cambridge University Press.
- Laudan, L. (1977). *Progress and its problems. Toward a theory of scientific growth*. Berkeley, CA: University of California Press.
- Macmillan, C.J.B., & Garrison, J.W. (1984). Using the "new philosophy of science" in criticizing current research traditions in education. *Educational Researcher*, 13(10), 15-21.
- Manicas, P.T., & Secord, P.F. (1983). Implications for psychology of the new philosophy of science. *American Psychologist*, 38, 399-413.
- Marshall, C. (1984). The wrong time for mechanistics in qualitative research (letter). *Educational Researcher*, 13(9), 26-28.
- Miles, M.B., & Huberman, A.M. (1984a). Drawing meaning from qualitative data: Toward a shared craft. *Educational Researcher*, 13(5), 20-30.
- Miles, M.B., & Huberman, A.M. (1984b). Rejoinder to Marshall (letter). *Educational Researcher*, 13(9), 28-29.
- Mosenthal, P.B. (1985). Defining progress in educational research. *Educational Researcher*, 14(9), 3-9.
- Phillips, D.C. (1983). After the wake: Postpositivistic educational thought. *Educational Researcher*, 12(5), 4-12.
- Rosnow, R.L., & Rosenthal, R. (1989). Statistical procedures and the justification of knowledge in psychological science. *American Psychologist*, 44, 1276-1284.
- Royce, J.R. (1982). Philosophic issues, Division 24, and the future. *American Psychologist*, 37, 258-266.
- Schubert, W.H. (1980). Recalibrating educational research: Toward a focus on practice. *Educational Researcher*, 9(1), 17-21.
- Shulman, L.S. (1981). Disciplines of inquiry in education: An overview. *Educational Researcher*, 10(6), 5-12.
- Smith, J.K. (1983). Quantitative versus qualitative research: An attempt to clarify the issue. *Educational Researcher*, 12(3), 6-13.
- Smith, J.K., & Heshusius, L. (1986). Closing down the conversation: The end of the quantitative-qualitative debate among educational inquirers. *Educational Researcher*, 15(1), 4-12.
- Staats, A.W. (1981). Paradigmatic behaviorism, unified theory, unified theory construction methods, and the Zeitgeist of separatism. *American Psychologist*, 36, 239-256.
- Tuthill, D., & Ashton, P. (1983). Improving educational research through the development of educational paradigms. *Educational Researcher*, 12(5), 6-14.
- Tuthill, D., & Ashton, P. (1984). Response to Miles and Huberman (letter). *Educational Researcher*, 13(9), 25-26.
- Wachtel, P.L. (1980). Investigation and its discontents. Some constraints on progress in psychological research. *American Psychologist*, 35, 399-408.
- Willson, V.L. (1980). Research techniques in AERJ articles: 1969-1978. *Educational Researcher*, 9(6), 5-10.

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